84TH CONGRESS } HOUSE OF REPRESENTATIVES { REPORT
2d Session } { No. 1798

W. C. SHEPHERD, TRADING AS W. C. SHEPHERD CO.

FEBRUARY 21, 1956.—Committed to the Committee of the Whole House and ordered to be printed

Mr. FORRESTER, from the Committee on the Judiciary, submitted the following

REPORT

[To accompany H. R. 6126]

The Committee on the Judiciary, to whom was referred the bill (H. R. 6126) for the relief of W. C. Shepherd, trading as W. C. Shepherd Co., having considered the same, report favorably thereon without amendment and recommend that the bill do pass.

PURPOSE

The purpose of the proposed legislation is to pay W. C. Shepherd, trading as the W. C. Shepherd Co., Atlanta, Ga., the sum of $102,958.07 in full settlement of all claims against the United States for losses or damages incurred under contract No. W–257–eng–2286, dated April 22, 1943, with the Corps of Engineers, Department of the Army, for the construction of the Cumberland Oil Field protective levees.

STATEMENT OF FACTS

W. C. Shepherd, the claimant, asks that the Government pay him the sum of $102,958.07, in settlement of his claims against the United States for losses and damages incurred under contract W–257–eng–2286, dated April 22, 1943, with the Corps of Engineers, Department of the Army, for the construction of the Cumberland Oil Field protective levees. The amount represents the difference between the damages of $214,253.88 sustained by him according to the findings of the United States Court of Claims in its decision, and the amount of $111,295.81 allowed Shepherd by that court.

W. C. Shepherd entered into the contract for the purpose of constructing the Cumberland Oil Field protective levees, which are a part of the Denison Dam and Reservoir project on the Red River between Oklahoma and Texas. The Denison Dam is about 10 miles

below the confluence of the Washita and Red Rivers, and after completion it was expected that the water in the Washita River would be backed up for about 40 miles. The Cumberland Oil Field lies adjacent to the Washita River at a point about 30 miles above the Denison Dam and the backwater would have flooded that field. That field had 75 producing oil wells and it was expected that an additional 75 wells would be drilled. To protect that oilfield against flooding and making the Government liable for damages so high as to be incapable of estimation was the inspiration for the building of these protective levees. This work was deemed a part of the war effort, and to avoid delay the Government accepted Shepherd's bid and he was notified of said acceptance and asked to begin work before the formal written contract was later executed on April 22, 1943.

The sole record that this committee has concerning the facts in this case is the decision of the United States Court of Claims, consisting of 82 pages of typewritten matter, and the contentions of the claimant, plus a statement from the author of this bill. The findings of fact in this decision of the Court of Claims are to the effect that Shepherd had engaged in the contracting business since 1918 and had had a number of contracts with the United States Corps of Engineers in work of this nature. In March 1943, the claimant learned that a contract for this construction would be let, and that claimant's representative went to Denison, Tex., for the purpose of making a preliminary survey of the job (pp. 18–20). The claimant looked over the preliminary drawings, submitted a bid, and his bid was accepted. In the interest of the war effort and to avoid the delay incident to the execution of the formal contract, a letter contract and notice of award of contract to claimant was issued on April 22, 1943, and accepted by claimant on the following day. The formal written contract was executed sometime later but dated back to April 22, 1943. The total estimated consideration to be paid was based on the unit prices, and was approximately $4,858,383.36. Under the specifications, the contractor was to commence work within 7 days after notice of the award (pp. 20–21). That this work was highly complicated and was most technical is proven beyond peradventure (pp. 25–33 of said decision). Beginning on page 31 and reading page 32, it becomes certain that there were so many zones, areas, and channels that for practical purposes it was impossible, or practically so, to know where one of the units stopped and another unit began. The findings of fact of the Court of Claims is to the effect that this contractor encountered saturated and wet materials that were not anticipated (p. 37, sec. 31), and that when the wet material was encountered, claimant had to excavate it with a dragline rather than with a shovel, as had been planned, and that it was difficult and at times impossible to move machinery through the wet material both in the channel and on the field, and claimant had to build ramps and had to haul out of the channel over steep grades when the Euclids were unable to pull through the floor of the channel (pp. 39–40). Page 42 is a finding of fact that there was heavy rainfall during the months of May and June 1943, and that on May 9, 1943, a flood on the Washita River inundated a part of the project area and 22 pieces of claimant's plant and equipment were trapped and partially covered by the floodwater. Claimant was not able to remove the equipment from the flooded area until May 18, 1943, and claimant had to procure other

machinery to continue work. Actually, claimant had to run the gantlet of Government restrictions in trying to obtain other equipment, and did not receive such equipment until September 4, 1943 (pp. 42–43).

The record shows that claimant did everything possible to carry out his contract to the letter, although working under unforeseen conditions and upon changes in the original contract. He did consult the resident engineer regarding being paid for this work, but nevertheless did continue. The facts are that carrying out this contract broke the claimant. This work was completed and accepted subject to final cleanup on May 3, 1944. On May 15, 1944, claimant, for himself and Subcontractor Jones, submitted to the contracting officer a written document, wherein he contended that he was entitled to the sum of $1,235,833.65 by reason of unforeseen conditions and by changes in the contract, said contract providing for such excess claims (p. 14). As a matter of fact, page 24 of the findings of fact is that an audit later prepared showed that the losses of the claimant and subcontractor substantially exceeded that sum. Claimant filed that claim on May 15, 1944, and shows 10 items for which said sum was claimed, although only 4 are recited in the Court of Claims decision (pp. 14–15). On June 19, 1944, the contracting officer, who was the person named in the contract to pass upon such claims, denied that claim of 10 items aggregating $1,235,833.65 in full, all of which appears, when considered in the light of the Court of Claims decision, to have been completely arbitrary and with a complete failure to even consider well-known facts, such as that admittedly unforeseen obstacles had occurred which were contrary to the survey and the findings of the engineers themselves.

Page 24 of the findings of fact says that claimant and his subcontractor were heavily indebted as a result of losses sustained in performing the contract, and that they urgently needed the final payment to pay outstanding debts, and that on June 27, 1944, claimant, laboring under those heavy debts, in order to secure any money whatever, executed a release upon payment of the sum of $252,318.52 due under said contract—

> excepting, however, the claim for additional compensation filed by the contractor under date of May 15, 1944, for the sum of $1,235,833.65, which claim is being appealed.

Under the exception in the above-stated release, this case found its way into the United States Court of Claims, and the claimant was met with opposition on the part of the Government through contentions that the claimant had not seasonably filed his claim, and other technical objections, such as that the claimant had not notified the contracting officer that he had encountered conditions different from what he had a right to expect as set out in the contract. A reading of the decision of the United States Court of Claims affirmatively shows on page 8 that the contention of the Government that the claim for excess sand could not be considered because of failure to seasonably comply with article 4 of the contract. Nevertheless, the evidence showed that the claimant had incurred losses because of that fact. Pages 13–14 show that the claimant sustained losses which could not be isolated, but nevertheless those losses were sustained. As a matter of fact, only 3 of the 10 items set out in the claim of May 15, 1943, were found

cognizable by the Court of Claims, under the technicalities and provisions in the contract. Under the Court of Claims decision, page 17, relating to wet materials in channel 2, the Court of Claims held that the claimant had incurred excess losses in the sum of $175,039.59 (including an allowance of 10 percent for overhead and profit), but that inasmuch as his claim filed on May 15, 1943, set out the amount of the loss as being $72,081.52, he was limited in his recovery to the amount claimed in his release for that item. Page 17 also says that claimant set out in the claim of May 15, 1943, a claim for $371,329.60 for the use of pervious matter from channel 1 and wet material from channel 2 on the fill, and for excessive wetting and rolling of the fill, but that claimant showed damages on that item of only $39,214.29, and that since the claimant had reserved a higher figure in his release, he could recover the full sum of $39,214.29. The result of the Court of Claims decision was substantially as follows: (1) That the claimant and his subcontractor had actually sustained losses in excess of $1,235,833.65, the sum set out in his claim of May 15, 1943, but (2) only 3 items could be considered and that of these 3 items considered that the claimant did lose $214,253.88 for that part of the work performed by claimant, and if claimant had not overestimated some items and underestimated other items of the 3 items considered, he would have been entitled to a judgment for $214,253.88, but because of overestimating and underestimating, claimant was entitled to a judgment for only the sum of $111,295.81 in his behalf. It should be noted that the Court of Claims found in behalf of the subcontractor, Jones, that he be paid $339,677.98 for the losses sustained by him, and that Jones had been fully paid and that Jones had no further claim against the Government.

It is the opinion of this committee that the Court of Claims did a splendid job under the law, and that it is a fair conclusion that the Court of Claims recognized that this claimant had suffered even more damages than he contended in his claim of May 15, 1943, and that only restrictive clauses in the contract had prevented him from recouping his terrific losses. Consequently, it would appear that this is exactly the type of claim that this committee has authority to entertain. Here is a claimant who performed good work, knowing that he would lose his accumulations of a lifetime through so doing. Apparently, it was impossible for the claimant, on May 15, 1943, to completely isolate all of his losses so as to pinpoint those losses to a particular channel or zone, and the only way that he could have protected himself would have been to contend in his claim of May 15, 1943, stupendous losses on every item, so that whatever amount was found to be his through loss would be less than the amount he claimed. The findings of fact shows that the claimant was broke, and filed his claim of May 15, 1943, without assistance of counsel and without audit. The passing of this bill would simply mean that the $102,958.07, when paid and added to the $111,295.81 heretofore paid under judgment of the court, would aggregate the sum of $214,253.88, which the Court of Claims on page 13 of its decision held that the claimant had suffered as damages under the three items which they had been legally able to consider. This committee is of the opinion that this bill should be passed for the reasons set out herein, and that the claimant should not be penalized for failing to pad his estimation of damages on May 15,

1943, and particularly whereas this committee believes this case to have been incapable of exact computation.

It is recommended that this bill be reported favorably.

The bill contains the customary attorney's fee proviso in view of the fact that it has been demonstrated to the committee that legal services have been rendered in connection with this claim.

STATEMENT OF REPRESENTATIVE JAMES C. DAVIS OF GEORGIA IN BEHALF OF H. R. 6126

Mr. Chairman, thank you for the opportunity to make this statement in support of House bill H. R. 6126, now pending before your subcommittee, for the relief of W. C. Shepherd, trading as W. C. Shepherd Co.

Mr. W. C. Shepherd is personally well known to me, and has been well known to me for approximately 30 years. I am familiar with the type of work he has performed as a grading contractor, in highway construction and various kinds of dirt moving. He has always performed work of the highest type. He has been employed by the Federal Government on many construction jobs in this country and abroad, and enjoys the confidence and respect of all those with whom he has come in contact throughout the years. His experience with the Federal Government dates back to the period of World War I or thereabouts. His reputation is of the best, not only with the Federal Government, but with State and local governments and with private business.

I regard Mr. Shepherd as being a man who is thoroughly honest and truthful, and possessed of highest integrity.

I am familiar with the fact that Mr. W. C. Shepherd suffered tremendous losses as a result of fulfilling a contract which he entered into with the United States to construct the Cumberland Oil Field protective levees, the contract which is connected with the bill under consideration.

As a result of certain developments during the progress of his work, which are fully set out in the opinion rendered in this case (No. 49167) by the United States Court of Claims, Mr. Shepherd incurred greatly increased expenses on this job. Notwithstanding all this, he did an honest, excellent job of work. As a result of losses sustained under this contract, Mr. Shepherd lost practically everything he possessed. I know of my own knowledge that he sold his attractive and commodious home with considerable acreage surrounding it, and that he and his family moved their residence into a dwelling house at another location which Mr. Shepherd had previously used as his office and place of business. Mr. Shepherd has started from scratch to climb the hard road back and reestablish his construction business.

The amount sought in this bill will not in any sense compensate Mr. Shepherd for his losses. It is an amount which is justified under the findings of fact of the Court of Claims, and I respectfully and earnestly urge your favorable consideration and action thereon.

DEPARTMENT OF THE ARMY,
Washington 25, D. C., August 1, 1955.

Hon. EMANUEL CELLER,
Chairman, Committee on the Judiciary,
House of Representatives.

DEAR MR. CHAIRMAN: Reference is made to your request for the views of the Department of the Army with respect to H. R. 6126, 84th Congress, a bill for the relief of W. C. Shepherd, trading as W. C. Shepherd Co.

The Department of the Army is opposed to the above-mentioned bill.

This bill provides as follows:

"That the Secretary of the Treasury is authorized and directed to pay, out of any money in the Treasury not otherwise appropriated, to W. C. Shepherd, trading as W. C. Shepherd Company, Atlanta, Georgia, the sum of $102,958.07. The payment of such sum (1) shall be in full settlement of all claims of such company against the United States for losses or damages incurred under contract numbered W–257–eng–2286, dated April 22, 1943, with the Corps of Engineers, Department of the Army, for the construction of the Cumberland Oil Field protective levees, and (2) represents the payment of the difference between the

damages of $214,253.88 actually incurred by the company, as found by the United States Court of Claims in its decision in the case of W. C. Shepherd, trading as W. C. Shepherd Company, against the United States, filed July 13, 1953, and the amount of $111,295.81 allowed such company by the court, the court having held that the company's recovery was limited by a release which it had executed shortly after the completion of the work."

On April 22, 1943, W. C. Shepherd, trading as W. C. Shepherd Co. (hereinafter sometimes referred to as Shepherd or the contractor) entered into a contract with the United States of America (hereinafter referred to as the Government) to construct the Cumberland Oil Field protective levees, which were a part of the Dennison Dam and Reservoir project on the Red River between Oklahoma and Texas. The contract work was completed and accepted subject to final cleanup on May 3, 1944.

On May 15, 1944, Shepherd filed with the contracting officer a written document containing a number of claims (hereinafter referred to as the May claim), asserted on behalf of himself and his subcontractor, the A. Raymond Jones Co. The claim pertinent to the bill relates only to Shepherd and covers the following item:

"3. Contractor's claim for excavating, hauling, and dumping wet material from channel No. 2---------- $72,081.52"

The contract provided that upon completion and after acceptance of all work required thereunder, the amount due the contractor should be paid to him after the contractor furnished to the Government "* * * a release, if required, of all claims against the Government arising under and by virtue of this contract, other than such claims, if any, as may be specifically excepted by the contractor from the operation of the release in stated amounts to be set forth therein."

The May claim was denied by the contracting officer on June 19, 1944. On June 27, 1944, Shepherd executed a release of "all claims arising under and by virtue of said contract * * * excepting however the claim for additional compensation filed by the contractor under date of May 15, 1944, for the sum of $1,235,833.65, which claim is being appealed."

On July 17, 1944, Shepherd appealed from the decision of the contracting officer to the War Department Board of Contract Appeals. On February 27, 1946, the War Department Board of Contract Appeals affirmed the decision of the contracting officer except for a claim not involved in the bill.

On May 23, 1949, Shepherd filed suit in the Court of Claims which on July 13, 1953, awarded Shepherd the sum of $111,295.81 (113 F. Supp. 649, 658). The court determined that the majority of the items in Shepherd's claim were without merit. The sum awarded was composed of awards on two items of the claim. As to one of these items, for which Shepherd had claimed $371,329.60, the court determined that damages had been proved only to the extent of $39,214.29. As to the remaining item, listed as item 3 in the May claim, the court found that Shepherd had incurred excess costs, including an allowance of 10 percent for overhead and profit, totaling $175,039.59, but that Shepherd was limited in recovery to the amount of $72,081.25, which was reserved in the May claim with respect to this item. The difference between these two last-named amounts, $102,958.07, is the amount provided for in this bill.

In this connection the court said:

"* * * On June 27, 1944, plaintiff executed the release now in question, excepting only the claim filed May 15 in the amount stated. It is obvious that not only were the claims here involved in the minds and contemplation of the parties, but also that all the facts bearing on the existence of the injury were known. Even if it be true that the extent of the injury was not known to plaintiff at that time, we are of the opinion that this is not such a mistake as to justify reformation of the release freely given under the above facts and circumstances.

"In his brief plaintiff points to a number of cases involving releases given by a party who has suffered personal injuries as analogous to the facts before us. Even in the personal injury cases, however, a release cannot be avoided merely because the injuries later prove more serious than the releasor believed them to be at the time of executing the release. See *Serr* v. *Biwabik Concrete Aggregate Co.*, 202 Minn. 165, 278 N. W. 355, 117 A. L. R. 1022; 5 Williston on Contracts (Rev. Ed.) Sec. 1551.

"Accordingly, and without discussion of defendant's contentions in opposition to our granting a reformation of the release, we hold that plaintiff is bound by the terms of the release as written, and is limited in his recovery to the specific items and amounts excepted from the operation of the release" (id. 657).

The payment of the instant claim would, in effect, set aside the finding of the court that the release was given freely by Shepherd with knowledge of all the facts bearing on the existence of the injury, and would render void the judgment of the court that recovery is limited to the amount excepted from the operation of the release. This would create a precedent which might well serve to destroy the protective procedure afforded the Government in having the right to require a release when making payments to contractors upon completion and acceptance of work under contract.

The record shows that Shepherd has been in the general contracting business since 1918 and has had considerable experience in the performance of contracts with the Corps of Engineers involving earth moving and fill work.

A review of the whole record fails to disclose any facts or circumstances other than that the release was executed in the normal course of events in connection with the performance of the contract, with knowledge, in advance, of "the facts bearing on the existence of the injury" (id. 657). The Department of the Army, accordingly, recommends that this bill not be enacted into law.

The enactment of this bill would involve expenditure of Federal funds in the amount of $102,958.07.

A similar report is being rendered by this Department on S. 1848, 84th Congress, an identical bill for the relief of W. C. Shepherd, trading as W. C. Shepherd Co.

Inasmuch as the committee has requested that the report be expedited, it is submitted without a determination by the Bureau of the Budget as to whether or not it conforms to the program of the President. As soon as such advice is received it will be forwarded to your committee.

Sincerely yours,

WILBER M. BRUCKER,
Secretary of the Army.

DEPARTMENT OF THE ARMY,
OFFICE OF THE SECRETARY OF THE ARMY,
Washington 25, D. C., August 17, 1955.

Hon. EMANUEL CELLER,
Chairman, Committee on the Judiciary,
House of Representatives.

DEAR MR. CHAIRMAN: Reference is made to the letter of August 1, 1955, from the Secretary of the Army to you, expressing the views of the Department of the Army with respect to H. R. 6126, 84th Congress, a bill for the relief of W. C. Shepherd, trading as W. C. Shepherd Co.

Inasmuch as the committee had requested that action be expedited, the report was submitted to the committee without a determination by the Bureau of the Budget as to whether it conformed to the program of the President.

This is to inform you that the Bureau of the Budget, on August 12, 1955, advised the Department of the Army that it had no objection to the report submitted to you on August 1, 1955.

Sincerely,

H. J. WHEATON,
Colonel, GS,
Deputy Chief of Legislative Liaison.
for C. J. HAUCK, Jr.,
Brigadier General, GS,
Chief of Legislative Liaison.

The decision of the United States Court of Claims in the case of *W. C. Shepherd, trading as W. C. Shepherd Company* v. *The United States* is as follows:

In the United States Court of Claims

No. 49167

(Decided July 13, 1953)

W. C. SHEPHERD, TRADING AS W. C. SHEPHERD COMPANY, v. THE UNITED STATES

Mr. Francis M. Shea for the plaintiff. *Messrs. Warner W. Gardner*, *Lawrence J. Latto*, *Murphey Candler*, *Jr.*, and *Searcy L. Johnson* were on the briefs.

Miss Mary K. Fagan, with whom was *Mr. Assistant Attorney General Warren E. Burger*, for the defendant.

OPINION

WHITAKER, *Judge*, delivered the opinion of the court:

Plaintiff, W. C. Shepherd, entered into a contract with the defendant to construct the Cumberland Oil Field protective levees, which was a part of the Denison Dam and Reservoir Project on the Red River between Oklahoma and Texas. The Denison Dam is about ten miles below the confluence of the Washita and Red Rivers. After it should have been completed it was expected that the water in the Washita River would be backed up for about forty miles. The Cumberland Oil Field lies adjacent to the Washita River at a point about thirty miles above the Denison Dam, and the backwater would have flooded it. At the time this field had seventy-five producing oil wells and it was expected that an additional seventy-five wells would be drilled in the near future. The construction of the levees was to protect this oil field.

A part of the work consisted in the diversion of the Washita River at the upper part of the work. A channel about 3,300 feet long and 600 feet wide and around forty feet in

depth was to be constructed, through which the river was to be diverted. This was known as Channel No. 1. On leaving this channel the water was designed to flow down a natural declivity, and then into another channel, known as Channel No. 2, which was to be about 7,000 feet long and 350 feet wide, involving cuts up to as much as 80 feet in depth.

The protective levees were to be constructed for the most part from the material excavated from the two channels. The levees were to have a total length of 23,480 feet, and an average height of about 50 feet.

Plaintiff claims that in the excavation of Channel No. 2 he encountered wet materials, which differed materially from the character of materials shown on the drawings or indicated in the specifications, and that he is, therefore, entitled to a modification of the contract to provide for the increase in cost in the handling of this wet material over what it would have cost to handle the material plaintiff says he had a right to expect. He also says that in the excavation of Channel No. 1 he encountered and had to handle much more pervious material than he had reason to expect.

His third claim is that the contracting officer required excessive wetting of the levees and unnecessary compaction of the materials placed therein. He claims damages for the increased cost of doing this work in the manner required.

The case was heretofore argued before the court on the sole question of whether the plaintiff had complied with the requirements of the contract relative to notice, protest, and appeal. On October 2, 1951, we rendered an opinion holding that the plaintiff had complied with these requirements. The case was then remanded to the Commissioner for the purpose of taking proof on the question of plaintiff's right to recover on the three items asserted in his petition, assuming compliance with the requirements relative to notice, protest, and appeal. These items were (1) excess costs by reason of encountering conditions differing from the plans and specifications or of an unusual nature not ordinarily encountered in work of this character; (2) excess costs incurred by reason of a change in design of the work; and (3) extra work demanded in the compaction of the fills.

Notwithstanding the fact that, prior to the taking of any testimony in the case, the defendant had moved for an order

limiting the issues to be tried by the Commissioner to the question of whether or not the plaintiff was "precluded from recovery by virtue of the contract provisions relating to protests and appeals," and the allowance of this motion, a great deal of testimony was introduced by both parties on the whole question of liability, and we made findings based upon the testimony introduced. However, on remand to the Commissioner, further and more complete evidence was introduced, which now makes it necessary for us to amend and enlarge our former findings. For this reason our former special findings of fact are withdrawn and the findings set out hereinafter are substituted in lieu thereof.

Defendant again raises the question of plaintiff's compliance with the requirements of the contract relative to notice and appeal. It does so because of the Supreme Court's opinion in *United States* v. *Wunderlich, et al.*, 342 U. S. 98. It says the Board of Contract Appeals of the War Department had held that plaintiff had not complied with these requirements and that this finding is conclusive on us under the decision in that case.

In its exceptions to the Commissioner's findings defendant sets out what it regards as the pertinent parts of the findings of the contracting officer and of the Board of Contract Appeals. According to these excerpts the contracting officer held that plaintiff was not entitled to maintain his claim because it had not been filed until after all the work had been completed. His finding that the claim was not filed until after all the work had been completed, unreversed on appeal, is binding on us, but his conclusion that for this reason plaintiff is not entitled to recover is not binding.

Also, the finding of the Board that plaintiff did not tell the Chief of Operations and the resident engineer that he intended to make a claim for extra compensation under article 4 is binding on us;[1] but its conclusion that for that

[1] In our former opinion we said plaintiff asked the resident engineer if he should shut down the job and present his claim then, but that he was told he would not be permitted to shut down the job and that he could make his claim at the conclusion of all the work. This statement was based on the plaintiff's evidence alone. For some unexplained reason the defendant did not introduce the resident engineer as a witness. He did appear as a witness before the Board of Contract Appeals.

In fairness to present Government counsel, it should be said that she did not represent the Government in the hearings in this case prior to our former opinion.

reason plaintiff cannot recover is not binding, since this conclusion calls for a construction of the contract.

In our former opinion we said that the only obligation on the contractor in the first instance was to give notice to the contracting officer of the conditions differing from those the contractor had a right to expect, and that when he had done this, he had no further duty to perform until after the contracting officer had investigated the conditions and had made a ruling on whether or not they were different to such an extent as to require an equitable adjustment. The Board of Contract Appeals does not find that such a notice was not given.

The Board refused to consider the claim because plaintiff did not notify the contracting officer that he meant to make a claim for extra compensation under article 4. We do not think it was necessary for plaintiff to have done this at the time he called the conditions to the attention of the contracting officer. When he told the contracting officer that he had encountered a condition that was in fact different from what he had a right to expect, he had done all the contract required of him at the time.

The giving of the notice required an investigation by the contracting officer and a ruling. The investigation was made in this case by the contracting officer's authorized representative, but his only ruling was that the material encountered was suitable to be used in the fill to be constructed. He did not rule on whether or not the conditions so materially differed as to entitle plaintiff to an equitable adjustment.

Until this ruling was made, plaintiff was not required by the contract to go further. Plaintiff, however, did go further. He himself made several trips to see the contracting officer in an effort to secure relief from him. The contracting officer himself intended to make an investigation of the conditions and to make a ruling on whether plaintiff was entitled to an adjustment, and left plaintiff under the impression that the matter would receive further consideration, but, due to his sudden transfer to another assignment, he never did so.

Plaintiff never received a ruling by the contracting officer on whether the conditions encountered were sufficiently dif-

ferent from those he had a right to expect as to entitle him to an equitable adjustment.

He did get a ruling from the Chief of Operations that the material was suitable to use in the fill, but none on whether he was entitled to an equitable adjustment. Nor was this a final ruling from the office of the contracting officer, because, as stated, the contracting officer himself intended to investigate conditions and make a ruling.

If the character of the notice plaintiff gave defendant was a sufficient compliance with the contract, we think plaintiff's claim is not barred, since he later did make the claim that one of the conditions encountered was unforeseen and entitled him to an equitable adjustment. But was the notice sufficient? In our former opinion we did not rule on the question of whether plaintiff had to notify the contracting officer that he intended to make a claim under article 4. We did not because of plaintiff's supposed conversation with the resident engineer asking him if he should shut down the job and make a claim then. We said that in view of all that had gone before, it was the duty of the resident engineer to communicate this to the contracting officer, and that had he done so, the contracting officer would have had all that could be required in the way of notice.

We are now faced, however, with the implied finding of the Board of Contract Appeals that plaintiff did not have this conversation with the resident engineer. It does not appear from the excerpt from the Board's opinion that it made this express finding, but it is evident that the Board accepted the testimony of the resident engineer that no such conversation took place. Under the *Wunderlich* decision this finding is binding upon us.

Stripped of this conversation, we have left a complaint by the contractor of the wet material encountered in Channel No. 2 and the statement that it was increasing his costs to put it in the fill, but no claim at the time that it was an unforeseen condition entitling him to an equitable adjustment. What the plaintiff was seeking was permission to waste this material and to get material for the fill from the borrow pits, which would have greatly increased plaintiff's compensation. This was his objective; not an equitable ad-

justment in the contract price because of an unforeseen condition.

Since plaintiff made no claim of an unforeseen condition, the contracting officer evidently thought that he was not required to make an investigation to determine whether or not the conditions encountered should have been foreseen and, therefore, whether or not plaintiff was entitled to an adjustment in the contract price. He had knowledge of the conditions, but so far as we know he never made any investigation to determine whether or not they should have been foreseen.

This, however, should not foreclose plaintiff from later making a claim under article 4. He called the contracting officer's attention to the conditions before they were disturbed, and this is all that the contract required of him. Article 4 reads in part, "* * * the attention of the contracting officer shall be called immediately to such conditions before they are disturbed." What is to be done next is the responsibility of the contracting officer.

It is true plaintiff's request was to be allowed to waste the materials, and that he did not claim the conditions differed from those he had a right to expect; but how did this prejudice the defendant? It knew of the conditions and could have determined at any time whether or not they differed from those shown on the plans and specifications. It was not necessary for plaintiff to claim at the time that the conditions differed. The contract imposed the duty on the contracting officer to determine whether the conditions were materially different, even if he himself discovered the conditions; that is, in a case where the plaintiff took no action at all. Article 4 reads in part:

> Should the contractor encounter, or the Government discover, during the progress of the work subsurface and/or latent conditions at the site materially differing from those shown on the drawings or indicated in the specifications * * *.

The duty of determination was cast on the contracting officer when he became aware of the conditions, however his attention was directed to them.

Plaintiff's request to be allowed to waste the materials no doubt induced the contracting officer not to make at that

time the determination of whether the conditions so materially differed from those plaintiff had a right to expect as to entitle him to an equitable adjustment; but, when plaintiff at the conclusion of the work filed a claim on the ground that they did differ, the duty was cast upon him at that time, at least, to make the determination. Since the contracting officer had been immediately apprised of the conditions, he at any time could have determined whether they differed from those shown on the plans and specifications, or were of an unusual nature differing materially from those ordinarily encountered. Plaintiff's failure to make this claim at the time the condition was discovered did not impair the ability of the contracting officer to make the determination when the claim was made.

Since neither the contracting officer nor the head of the department made the required determination, plaintiff is not precluded from calling on this court to do so.

What we have said applies to a claim under article 4; it does not apply to a claim under article 3. That article requires a contractor to make his claim for an adjustment in the contract price within ten days from the time the contracting officer makes a change in the drawings or specifications. Article 4 contains no such requirement.

In our former opinion in this case we said:

> What has been said relative to the wet materials encountered in Channel No. 2 is equally applicable to the excess sand encountered in Channel No. 1. We are of opinion that plaintiff's rights under article 4 are not precluded for failure to comply with the contract requirements relative to the excess sand in Channel No. 1, as well as the wet materials encountered in Channel No. 2.

There is, however, an important difference between the claim relative to the wet materials in Channel No. 2 and the excess sand in Channel 1. That difference is this:

In the detailed claim filed with the contracting officer on May 15, 1944, after the conclusion of the work, plaintiff claimed that the wet materials was an unforeseen condition; but he did not make this claim with respect to the excess sand. His claim relative to it was that the design of fill areas II and III had been changed so as to utilize this excess sand,

and that this change in design increased his costs. This is a claim under article 3, and, as we said above, such a claim has to be made within ten days from the time the change is ordered. The contracting officer properly denied the claim when made later.

The first time plaintiff claimed that this was an unforeseen condition, and that he was entitled to an equitable adjustment under article 4, was in his petition in this court. This claim was never presented to the contracting officer. Does this bar plaintiff? We think it does. The contract provided for the settlement of disputes by the contracting officer, with the right of appeal to the head of the department. Article 15 says:

> * * * all disputes concerning questions of fact which may arise under this contract, and which are not disposed of by mutual agreement, shall be decided by the Contracting Officer * * *.

The contracting officer was the agreed "forum." By their agreement the parties did not intend to leave to the courts the determination of disputed facts; they did not intend that the courts should decide what was an equitable adjustment for an unforeseen condition; they intended that the contracting officer should do so. *United States* v. *Callahan-Walker Construction Co.*, 317 U. S. 56. Therefore, if plaintiff thought that this excess sand was such an unforeseen condition as to entitle him to an equitable adjustment, he was required by the contract to present this claim to the contracting officer for his decision. This the plaintiff did not do; instead, he presented a claim under article 3, based on a change in design of the fills. With reference to the wet materials in Channel No. 2, he did present his claim under article 4, but not as to the excess sand.

Many times we have held that failure to pursue the prescribed administrative remedy bars a plaintiff from prosecuting his claim in the courts.

It follows from this that, while plaintiff is entitled to prosecute in this court his claim relative to the wet materials in Channel No. 2, he is not entitled to prosecute his claim relative to the excess sand.

Plaintiff also contends that defendant breached the contract by requiring excessive wetting and compaction on the fills. It is alleged that the difference between the reasonable cost and the actual cost of the rolled fill work was $568,460.97, of which $301,432.89 was due to the defendant's requirement of excessive wetting and compaction. Included in the $301,432.89 is the sum of $44,256.53 claimed on behalf of the subcontractor.

The facts relating to this claim are set out at length in findings 60–80. In brief, they are that defendant's inspectors required more wetting of the pervious material placed on the fills and more passes of the sheep's-foot roller than was necessary to secure compaction of the fills to the density of at least 90 percent, as required by the contract.

Except for his claim relative to placing the wet materials on the fills, we do not think plaintiff is entitled to recover, because of his failure to protest to the contracting officer against what was being required of him.

The defendant's inspectors thought that the amount of wetting and the number of passes of the sheep's-foot roller which they demanded were necessary in order to secure the required compaction. If the plaintiff did not think so, it was his duty to present the dispute to the contracting officer, who was the arbiter designated by the contract to settle such matters.

Neither the contract nor the specifications specified the amount of the wetting or the number of passes with the sheep's-foot roller that would be necessary; it provided for such amount of wetting and such number of passes as were necessary to secure the required compaction. How much wetting and how many passes were required to do so was a question of fact. Disputes concerning questions of fact were required by the contract to be settled by the contracting officer.

Plaintiff never brought the matter to the attention of the contracting officer nor to his authorized representative and, therefore, these officials had no opportunity to pass on the question. Plaintiff cannot by-pass the contracting officer and call on this court to settle a dispute which he should have presented in the first instance to the contracting officer.

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It is true, as we said in our original opinion in this case, the specifications do not explicitly provide for protest against any requirement for work believed to be in excess of the contract requirements, but the contract does provide for the settlement of disputes by the contracting officer; and, hence, the plaintiff cannot call on this court to settle the dispute as to whether excessive wetting and compaction were being required unless he had first presented it to the contracting officer.

If the resident engineer and the inspectors were deliberately calling upon plaintiff for greater compaction than was called for by the contract, they were calling for an extra, and the plaintiff should have refused to do the extra work demanded until he had secured from the contracting officer an order in writing, with the cost of the extra work stated in the order, as required by article 5 of the contract. Plaintiff did not demand such an order and no such order was given. It was not given both because it was not asked for, and also because the resident engineer did not think that more work was being required than was necessary in order to comply with the contract.

In any event, we do not think that plaintiff has established the cost of whatever work was required of him over and above that necessary to meet the contract requirements. Plaintiff's excess costs in connection with the compaction of the rolled fills were due to several causes, to wit: the extra cost incident to the use of the wet material from Channel No. 2, the extra cost incident to the use of the excess pervious material from Channel No. 1, extra costs attributable to defective watering equipment and inadequate rolling equipment and other causes. It is impossible to tell from plaintiff's proof how much of his excess costs was caused by one thing or another. We cannot tell how much of them was due to unnecessary wetting or excessive passes of the sheep's-foot roller. Plaintiff is therefore not entitled to recover. *Addison-Miller, Inc.* v. *United States*, 108 C. Cls. 513; cert. den. 332 U. S. 836; *Eastern Contracting Co.* v. *United States*, 97 C. Cls. 341.

As to plaintiff's contention that the wet material[2] en-

[2] As used herein this term includes both wet and saturated materials encountered in the excavation of Channel No. 2, unless otherwise indicated.

countered by him and his subcontractor in the excavation of Channel No. 2 constituted an unforeseen condition within the meaning of article 4 of the contract, as a result of which the costs of excavating, hauling, and placing the wet material on the fill were greatly increased, defendant concedes, as indeed it must, that wet material was encountered in Channel No. 2, but it denies that this constituted a changed condition.

Defendant has taken sharp issue with the findings of the Commissioner of the court in regard to the wet materials claim. After carefully considering the numerous exceptions to the Commissioner's findings, we are of the opinion that his report fairly and accurately states the facts established by the record, and we have adopted them as the court's findings, with minor exceptions.

We do not think there can be any question but that the wet material was unforeseen by both plaintiff and defendant. It was an unknown, subsurface condition differing materially from that shown by the drawings, specifications and borings, and one which could not have reasonably been anticipated from a study of the drawings, borings and samples, or by an examination of the site. (Finding 32.) Plaintiff is therefore entitled under article 4 of the contract to recover the full excess costs of excavating, hauling, and placing the wet material on the fill, unless limited in his recovery by a matter hereinafter discussed. *Great Lakes Dredge and Dock Co.*, v. *United States*, 116 C. Cls. 679; cert. den. 342 U. S. 953; *Loftis* v. *United States*, 110 C. Cls. 551.

The presence of this wet material was due to the existence of two large depressions in the shale and one smaller one. Approximately 150,000 cubic yards of the material excavated from Channel No. 2 were in a semi-liquid or soupy state, and there was about the same amount of wet material lying above the saturated material. It was first encountered by the subcontractor in June of 1943. Defendant's inspector permitted the wasting of 150 cubic yards of it, but shortly thereafter the resident engineer directed that the material be placed in the fill. This decision was later approved by the chief of operations on the project, and also by the contracting officer, Colonel Wanamaker.

The wet material greatly increased the cost of excavation and hauling in Channel No. 2. It was necessary for plaintiff to excavate with a dragline rather than a shovel, as had been planned. The soupy material drained from the bucket, greatly reducing the loading efficiency of the equipment. The hauling equipment could be filled only to the water line with the semi-liquid material, and it drained or sloshed out of the equipment on the upgrades. Movement of machinery through the wet material both in the channel and on the fill was difficult, and at times impossible. Plaintiff doubled the number of hauling units he expected to use, and incurred extra costs in the operation and maintenance of his equipment. Additional expense in the maintenance of haul roads was also necessitated. (See further findings 34–36.)

The work on the rolled fill was also substantially increased. The wet material had to be dried for periods averaging three-fourths of a day, and layers had to be placed on the fill in shallow lifts of four to six inches in thickness, rather than the nine-inch and twelve-inch lifts prescribed by paragraph 5–03 of the specifications. Plaintiff's planned method for excavating, hauling, and rolling the excavated material was disrupted, and repair costs to equipment were increased.

Both plaintiff and his subcontractor excavated in Channel No. 2. The record shows that 62 per cent of the saturated material was excavated by the subcontractor, and 38 per cent by plaintiff. Plaintiff has no adequate record, however, of how much of the wet material found above the saturated material was excavated by him and how much by the subcontractor.

The amounts claimed because of the wet material are broken down into two items, the cost of excavating and hauling it, and the cost of handling it on the fill. Plaintiff seeks to recover $611,811.21 for excavating, and $93,466.50 for handling the material on the fill. On behalf of his subcontractor plaintiff seeks to recover $536,227.38 for excavating, and $103,265.24 for handling the material on the fill. Defendant vigorously argues that the excess costs incurred by both plaintiff and his subcontractor as a result of the wet material do not exceed $37,663.71.

We have found on all the evidence before us that the difference between the reasonable cost of the work if wet material

had not been encountered and the actual cost due to such wet material was $214,253.88 for that part of the work performed by plaintiff, and $339,677.98 for that part performed by the subcontractor. Included in each of these amounts are the excess costs incurred on the rolled fill because of the wet material, and an allowance of 10 per cent for overhead and profit, broken down as follows:

	Excavation and hauling	10 percent overhead and profit	Total	Rolled fill	10 percent overhead and profit	Total	Total extra cost
Shepherd (prime contractor)	$159, 126. 90	$15, 912. 69	$175, 039. 59	$35, 649. 35	$3, 564. 94	$39, 214. 29	$214, 253. 88
Jones (subcontractor)	259, 628. 10	25, 962. 81	285, 590. 91	49, 170. 06	4, 917. 01	54, 087. 07	339, 677. 98

The evidence submitted by the parties on the amount of damage sustained by plaintiff and his subcontractor is voluminous. Plaintiff claims considerably more than the amount we have found, and defendant says it should be much less. As in many such cases, it is not possible to compute the amount with mathematical exactness, but after careful consideration of the entire record we have concluded that the above figures come as near being correct as it is possible to arrive at from the proof.

Plaintiff's books and records do not show the excess costs of excavating the wet material and the excess cost of placing it in the fill. They show only the excess costs incurred by plaintiff and by his subcontractor Jones of the excavation of all of Channel No. 2. Nor do plaintiff's books support the amount claimed. His books show that the total excess cost for excavating all of Channel No. 2 was $556,594.62, and Jones' total excess costs for excavating Channel No. 2 amounted to $487,903.51. This includes, by the way, equipment ownership expense, not all of which is allowable.

Something over two million cubic yards were excavated in Channel No. 2, and only 300,000 cubic yards of that amount was wet material; hence, his figures give us no basis from which to determine the excess cost of excavating the wet material alone. The costs reflected by the books include

those caused by delays due to weather conditions, by labor shortages, by delays in getting equipment on the project in the beginning, by the requirement that plaintiff put extra equipment on the job, by a flood, and by other causes. It is not possible to ascertain the amount of excess costs that were attributable to each of these factors, all of which would have increased plaintiff's excess costs even if the wet material had not been encountered. There is no possible way to ascertain from plaintiff's books alone how much of his excess costs were attributable to the encountering of wet material.

However, upon the basis of all the evidence we have determined that the sum of $1.75 per cubic yard was the reasonable cost of excavating, hauling, and dumping the wet and saturated material on the fill areas. From this figure, we have deducted the contract price, less 10 percent for profit, and have multiplied the result by the total yardage which we have found was excavated by plaintiff and by his subcontractor, Jones; 114,000 cubic yards by plaintiff, and 186,000 cubic yards by Jones. The product thus obtained amounts to $159,126.90 for plaintiff, and $259,628.10 for Jones. In addition, we have determined that the additional costs for placing the wet and saturated material on the fill amounted to $35,649.35 for plaintiff, and $49,170.06 for Jones. We then allowed 10 percent for profit and overhead, and arrived at the totals of $214,253.88 for plaintiff, and $339,677.98 for Jones.

Plaintiff is entitled to recover in his own behalf and on behalf of his subcontractor the above excess costs incurred by them due to the wet material, unless, as defendant urges, plaintiff is limited in his recovery by a release executed after the completion of the work.

The facts relative to the release are these: Work on the contract in suit was completed and accepted subject to final cleanup on May 3, 1944. On May 15, 1944, plaintiff submitted to the contracting officer a written document asserting ten claims on behalf of plaintiff and his subcontractor, the A. Raymond Jones Company. This document will hereinafter be referred to as the May claim. It contained four items here pertinent, as follows:

Item	*Amounts*
3. Contractor's claim for excavating, hauling, and dumping wet material from Channel No. 2	$72,081.52
4. Subcontractor's claim for excavation of wet material from Channel No. 2	313,780.99
5. Contractor's claim for use of pervious material from Channel No. 1 and wet material from Channel No. 2 on fill, and for excessive wetting and rolling of fill	371,329.60
6. Subcontractor's claim for use of wet material from Channel No. 2 on fill and for excessive wetting and rolling of fill	113,417.20

How much of items 5 and 6 was for the use of the wet material and how much for the use of the pervious material and how much for allegedly excessive wetting and rolling is not shown.

Article 16 of the contract provided that upon completion and after acceptance of all work required under the contract, the amount due the contractor should be paid to him after the contractor furnished to the Government "* * * a release, if required, of all claims against the Government arising under and by virtue of this contract, other than such claims, if any, as may be specifically excepted by the contractor from the operation of the release in stated amounts to be set forth therein."

On June 27, 1944, approximately a week after the denial of the May claim by the contracting officer, plaintiff executed a release of "all claims arising under and by virtue of said contract * * * excepting however the claim for additional compensation filed by the contractor under date of May 15, 1944, for the sum of $1,235,833.65, which claim is being appealed."

Plaintiff concedes that the May claim was adopted by reference in the release, and recognizes that this court has held that a contractor is limited in his recovery to the specific items and amounts reserved in the release. *Bein* v. *United States*, 101 C. Cls. 144; *Eastern Contracting Co.* v. *United States*, 97 C. Cls. 341; *P. J. Carlin Construction Co.* v. *United States*, 92 C. Cls. 280. He argues, however, that the release does not limit recovery in this case for several reasons. Plaintiff says that the May claim and the release embodied a

serious mistake of fact, *i. e.*, the amount of plaintiff's damage, that this mistake was, by the nature of the transaction, mutual rather than unilateral, and that the release should therefore be reformed to effect substantial justice. Alternatively, plaintiff contends that the release should be reformed even if the mistake was unilateral. Finally, plaintiff urges that, even if effective as written, the release limits recovery only to the total sum excepted from the operation of the release, and not to the several items and amounts specified in the May claim and adopted by reference in the release.

This final proposition must be rejected on the authority of the *Bein*, *Eastern*, and *Carlin* cases, *supra*.

That this court may, for the purpose of awarding or refusing to award a money judgment against the United States, reform an instrument so as to express the true intent and understanding of the parties to it is well settled. *Ackerlind* v. *United States*, 240 U. S. 531; *Iowa-Wisconsin Bridge Co.* v. *United States*, 114 C. Cls. 464, 504, cert. den. 339 U. S. 982; *Sutcliffe Storage and Warehouse Co., Inc.* v. *United States*, No. 48624, decided June 2, 1953. But we are of the opinion that this is not a proper case for the exercise of that power.

The contract work was completed and accepted subject to final clean-up on May 3, 1944. On May 15, plaintiff filed with the contracting officer a voluminous and very detailed document containing, *inter alia*, the claims here pertinent. This claim was denied by the contracting officer on June 19, 1944. On June 27, 1944, plaintiff executed the release now in question, excepting only the claim filed May 15 in the amount stated. It is obvious that not only were the claims here involved in the minds and contemplation of the parties, but also that all the facts bearing on the existence of the injury were known. Even if it be true that the extent of the injury was not known to plaintiff at that time, we are of the opinion that this is not such a mistake as to justify reformation of the release freely given under the above facts and circumstances.

In his brief plaintiff points to a number of cases involving releases given by a party who has suffered personal injuries as analogous to the facts before us. Even in the personal injury cases, however, a release cannot be avoided merely

because the injuries later prove more serious than the releasor believed them to be at the time of executing the release. See 117 A. L. R. 1022; 5 Williston on Contracts (Rev. Ed.) § 1551.

Accordingly, and without discussion of defendant's contentions in opposition to our granting a reformation of the release, we hold that plaintiff is bound by the terms of the release as written, and is limited in his recovery to the specific items and amounts excepted from the operation of the release.

In item 3 of his claim plaintiff reserved his claim for excess costs of excavating, hauling, and dumping wet material from Channel No. 2, in the amount of $72,081.52. Although we have found that plaintiff incurred excess costs on this item in the amount of $175,039.59 (including an allowance of 10 per cent for overhead and profit), he is limited in his recovery to the amount excepted from the release.

Plaintiff reserved a claim in the amount of $371,329.60 for the use of pervious material from Channel No. 1 and wet material from Channel No. 2 on the fill, and for excessive wetting and rolling of the fill. The amount claimed for the use of the wet material alone cannot accurately be determined from the May claim, but we have found that plaintiff incurred excess costs on the rolled fill because of the wet material in the amount of $39,214.29 (including an allowance of ten per cent for overhead and profit). This amount is much less than the total claimed, and, under the circumstances, we think plaintiff is entitled to recover the full amount of $39,214.29.

In item 4 plaintiff reserved a claim on behalf of his subcontractor in the amount of $313,780.99 for the excavation of wet material from Channel No. 2. We have found that the subcontractor's excess costs on this item were $285,590.91 (including an allowance of 10 per cent for overhead and profit), and plaintiff is accordingly entitled to recover this amount for and on behalf of his subcontractor, the A. Raymond Jones Company.

Plaintiff also reserved a claim in the amount of $113,417.20 on behalf of his subcontractor for the use of wet material

from Channel No. 2 and for excessive wetting and rolling of the fill. The amount claimed for the use of the wet material alone cannot accurately be determined from the May claim, but we have found that the subcontractor's excess costs for the use of the wet material on the rolled fill were $54,087.07 (including an allowance of 10 per cent for overhead and profit). This amount is much less than the total amount claimed, and under the circumstances we think plaintiff is entitled to recover this amount for and on behalf of the A. Raymond Jones Company.

Plaintiff is therefore entitled to recover the total sum of $111,295.81 in his own behalf, and the total sum of $339,677.98 for and on behalf of his subcontractor, the A. Raymond Jones Company.

Judgment for $450,973.79 will be entered.

HOWELL, *Judge;* MADDEN, *Judge;* LITTLETON, *Judge;* and JONES, *Chief Judge*, concur.

FINDINGS OF FACT

The court makes findings of fact, based upon the evidence, the report of Commissioner Wilson Cowen, and the briefs and argument of counsel, as follows:

1. The plaintiff, a citizen of the United States, operates a general contracting business in partnership with his sons under the name of W. C. Shepherd Company, which has its home office in Atlanta, Georgia. Plaintiff has been engaged in the contracting business since 1918 and has had considerable experience in the performance of contracts, including a number of contracts with the United States Corps of Engineers, involving earth moving and fill work.

2. On April 22, 1943, plaintiff entered into a written contract with defendant, acting through Colonel W. W. Wanamaker of the Corps of Engineers, as contracting officer, whereby plaintiff, in consideration of the unit prices to be paid for the estimated quantities of the items of work, agreed to construct the Cumberland Oil Field protective levees in accordance with the specifications, schedules, and drawings.

3. The work called for under the contract was a part of the Denison Dam and Reservoir Project. At the time the

contract with plaintiff was executed, the Denison Dam was in the course of construction and was nearing completion. It is a flood control dam which was erected across the Red River at a point where it forms the boundary between Oklahoma and Texas. The dam is about ten miles below the confluence of the Washita and Red Rivers. When the reservoir was full, it was expected that the dam would back water for approximately fifty miles up the Red River and for about forty miles up the Washita River.

The Cumberland Oil Field lies adjacent to the Washita River at a point about thirty miles above the Denison Dam. In June of 1943, the oil field had seventy-five producing oil wells and it was expected that an additional seventy-five wells would be drilled in the near future. The closing of the dam and the filling of the reservoir was expected to raise the water level in the oil field to a depth of forty-five feet, and the project covered by the contract involved here was designed to protect the oil field by the construction of levees and river discharge channels. The protective work extended over an area approximately 5.6 miles long. In the upper reach, the Washita River was to be diverted through Channel No. 1 about one-half mile to the east. The excavation for this channel, which was to be about 3,300 feet long and 600 feet wide, involved making cuts up to forty feet in depth. It was planned that after the river water was diverted into this channel, it would flow through a natural declivity and pass into Channel No. 2 about one mile to the east of the river. The excavation for Channel No. 2, which was to be about 7,000 feet long and 350 feet wide, involved making cuts up to eighty feet in depth.

The protective levees were to be constructed for the most part from the material excavated from the two channels. The levees were to have a total length of approximately 23,480 feet with 24-foot crown widths and with average bottom breadths from 300 feet to 600 feet. At points where the levees crossed the river, cofferdams and levee closures were required. The levees were to be of the rolled-fill type and were to be approximately eighty-five feet to ninety feet high at the river crossing and of an average height of about fifty feet.

4. The Corps of Engineers estimated that the levee construction would require about 5,418,400 yards of material. The channel excavation was expected to provide about 5,423,300 yards, including 2,953,200 cubic yards of levee earth, and 2,470,100 cubic yards of shale waste. The remaining 2,465,200 cubic yards of earth needed for the levees was to be obtained from five designated borrow pits.

5. In March of 1943, plaintiff learned of the possibility that a contract for the construction of the Cumberland Oil Field protective levees would be let. Plaintiff's representative went to Denison, Texas, for the purpose of making a preliminary survey of the job. A set of preliminary drawings was made available by defendant, and an employee of defendant conducted plaintiff's representatives over the site of the project. On March 20, 1943, plaintiff mailed to the Denison District Office a list of its personnel and available equipment. On April 7, 1943, the formal solicitation for sealed bids, to be opened on April 19, 1943, was issued and the final plans and specifications were made available on the same day. Plaintiff's bid was the lowest of five received. Of the five bids received, only three, including plaintiff's bid, covered all of the items in the contract. The following table shows the three major bids and the Government's estimate of costs on the items material to this action.

Contract Item

	Gov't Est.	Plaintiff	Morrison-Knudson	Peter Kiewit
5. Rolled Fill (cu. yd.)	.136	.06	.15	.06
11. Excav. Chan. 1 to Fill (cu. yd.)	.27	.3313	.32	.44
13. Excav. Chan. 2 to Fill (cu. yd.)	.24	.389565	.40	.47

6. In the interest of the war effort and to avoid the delay incident to the execution of the formal contract, a letter contract and notice of award of the contract to plaintiff was issued by the contracting officer on April 22, 1943, and accepted by plaintiff on the following day. The formal written contract was executed sometime after the notice of award but was also dated April 22, 1943. The total estimated

consideration to be paid plaintiff, based on the unit prices for the estimated quantities of work, was stated to be approximately $4,858,383.36.

7. Paragraph 1–06 of the specifications required the contractor to commence work within seven days after the receipt of notice of award and to complete the entire work by March 1, 1944, plus any extension of time granted under the provisions of the contract. However, before the levees could be constructed across the river, it was necessary to have the excavation of both channels completed in order that the flow of the river could be diverted into the channels. The Denison Dam was to be closed about November 15, 1943, after which date the floodwaters of the Washita River would not run off. Accordingly, paragraph 1–06 (b) of the specifications specified that the excavation of the channels was to be completed before November 15, 1943. Paragraph 2–02 of the specifications required the contractor to complete the following items of work before undertaking the closure of the Washita River and Rock Creek channels by means of a cofferdam: (a) the excavation of the two channels to the grades and elevations shown on the drawings; (b) the placing of protective stone at elevation 620 on the riverside levee, and (3) the completion of the rolled-fill levee and adjoining blankets to an elevation of at least 620 feet, except at the closure sections. By the terms of paragraph 2–03 of the specifications, the construction of the closure cofferdams and the diversion through the discharge channels were required to be started on or about November 15, 1943. This intermediate completion date was inflexible and was to be unaffected by any time extensions.

8. The specifications provided that the contractor should perform, directly and without subcontracting, not less than 50 percent of the work calculated on the basis of the contract price. Plaintiff subcontracted approximately 46.34 percent of the contract work. On April 26, 1943, four days after the contract was awarded, plaintiff entered into a subcontract with the A. Raymond Jones Company. The subcontract, among other things, included the work required for the construction of Fill Area IV, including the excavation

of Channel No. 2 and the excavation of overburden in Borrow Area "K", replacing and compacting of the rolled fill in Area IV and the excavation and hauling of shale from Channel No. 2 to designated disposal areas.

Plaintiff also sublet all the work covered by contract items 16, 17, 18, 22 and 23, which included dumping riprap and placing riprap and crushed stone, to Lambert Brothers, Inc. A portion of the work under item 16 was resublet by the subcontractor to E. C. Schroeder & Co.

9. The subcontractor, Jones, moved some equipment to the site on April 29, 1943, and began work on the following day. The first of plaintiff's equipment arrived at the site on May 6, 1943, and work by the prime contractor was started on May 8, 1943.

On February 29, 1944, plaintiff wrote the contracting officer that the contract could not be completed on schedule because of unfavorable weather during the winter months and the inability of the stone subcontractor to secure sufficient common labor for the placement of the riprap. Plaintiff requested that the time for completion be extended from March 1, 1944 to April 15, 1944, and by Modification No. 6 the completion date was extended to April 16, 1944. Plaintiff requested a further extension of time from April 17 to May 3, 1944, stating that the delay in completion was entirely due to plaintiff's inability to secure sufficient common labor to place riprap stone after the stone had been delivered on the fills. The requested extension was granted by Modification No. 8 and the contract was completed and accepted, subject to final clean-up on May 3, 1944.

10. A comparison of the earth distribution as estimated by the Corps of Engineers in the plans and as performed by plaintiff is set forth in plaintiff's exhibit No. 16. Plaintiff and its subcontractor Jones moved a total of 8,045,888 cubic yards of material, including 5,300,220 cubic yards of earth for the levee fills and 2,502,172 cubic yards of shale.

11. On May 15, 1944, plaintiff submitted to the contracting officer a written document containing ten claims asserted on behalf of plaintiff and his subcontractor, the A. Raymond Jones Company. The claims, which are in evidence as

plaintiff's exhibit No. 27, included the following which are material to this action:

Claim Items	*Amount*
1. Contractor's claim for compensation for changes in design of typical sections in Fill Areas II and III, Items 11 and 12	$105,237.48
3. Contractor's claim for excavating, hauling, and dumping wet material from Channel No. 2	72,081.52
4. Subcontractor's claim for excavation of wet material from Channel No. 2	313,780.99
5. Contractor's claim for use of pervious material from Channel No. 1 and wet material from Channel No. 2 on fill, and for excessive wetting and rolling of fill	371,329.60
6. Subcontractor's claim for use of wet material from Channel No. 2 on fill and for excessive wetting and rolling of fill	113,417.20
Total	$975,846.79

The claim document included one claim for $10,114.48, which has been paid, and several other claims which were not included in plaintiff's amended petition and are not involved in this action.

12. With respect to the first two causes of action asserted in the petition, the facts relating to notice, protests, and appeals will be set forth in subsequent findings under the heading "Protests and Appeals". The facts with respect to the claims filed with the contracting officer, and the decisions of the contracting officer and the head of the department on the claims, will be set forth under the same heading. There is no pleading or proof of arbitrary or fraudulent action by the contracting officer or by the head of the department in the decisions disallowing plaintiff's claims.

13. Article 16 (d) of the contract provided:

> Upon completion and acceptance of all work required hereunder, the amount due the Contractor under this contract will be paid upon the presentation of a properly executed and duly certified voucher therefor, after the Contractor shall have furnished the Government with a release, if required, of all claims against the Government arising under and by virtue of this contract, other than such claims, if any, as may be specifically excepted by the contractor from the operation of the release in stated amounts to be set forth therein.

14. On June 27, 1944, plaintiff executed the following release:

> The work under Contract No. W–257–eng–2286, dated April 22, 1943, between the United States of America, represented by W. W. Wanamaker, Colonel, Corps of Engineers, District Engineer, as contracting officer, and the undersigned contractor, having been completed and finally accepted, the United States, its officers and agents are hereby released from all claims and demands whatsoever arising under or by virtue of said contract upon payment of the sum of $252,318.52, due under said contract, excepting however the claim for additional compensation filed by the contractor under date of May 15, 1944, for the sum of $1,235,833.65, which claim is being appealed.

15. A proposed general release covering all the contractor's claims accompanied the final estimate which defendant sent to plaintiff for execution. When the proposed release was received, both plaintiff and his subcontractor were heavily indebted as a result of losses sustained in performing the contract, and they urgently needed the final payment to pay outstanding debts.

The claims, which plaintiff had filed with defendant on May 15, 1944, had been prepared by plaintiff's engineer without the aid of counsel. When the proposed general release was received, plaintiff's engineer, again without consulting counsel, inserted in the release the words "excepting, however, the claim for additional compensation filed by the contractor under date of May 15, 1944, for the sum of $1,235,833.65, which claim is being appealed."

At the time plaintiff signed the release, no one acting in his behalf had completed any full audit of his costs in connection with the contract. An audit prepared after the release was executed indicated that the loss sustained by plaintiff and his subcontractor substantially exceeded the $1,235,833.65 stated in the release.

At the time the release was executed, plaintiff and his subcontractor had actual knowledge of all the facts bearing on the existence of the claims in suit. Although plaintiff contends that neither he nor the subcontractor intended to release any damages which might later be discovered in excess

of the amounts set forth in the May claim and adopted by reference in the release, there is no evidence in the record to support a finding that such was their intention. The record does not establish that the claimed intention was ever communicated to defendant, nor that defendant intended, should it later be discovered that plaintiff had understated his and the subcontractor's damage, that the release and the May claims should be interpreted as not limiting the claims but merely describing them.

16. Plaintiff and his subcontractor, A. Raymond Jones, sustained a substantial loss in the performance of the contract. Plaintiff claims that such loss was caused by (1) the unexpected presence of subsurface water and saturated soil, which were encountered in the excavation of Channel No. 2, and the defendant's requirement that such wet material be placed on the levees; (2) an unexpected overrun of pervious material, which was encountered in the excavation of Channel No. 1, and the defendant's requirement that the excess material be used on the levees; and (3) the defendant's breach of contract in failing to direct and control the rolled-fill work in accordance with the provisions of the contract and by requiring excessive wetting and compaction of the rolled fill.

WET MATERIAL IN CHANNEL NO. 2

17. The contract provided in pertinent part as follows:

> ARTICLE 4. *Changed conditions.*—Should the contractor encounter, or the Government discover, during the progress of the work subsurface and/or latent conditions at the site materially differing from those shown on the drawings or indicated in the specifications, or unknown conditions of an unusual nature differing materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in the plans and specifications, the attention of the contracting officer shall be called immediately to such conditions before they are disturbed. The Contracting Officer shall thereupon promptly investigate the conditions, and if he finds that they do so materially differ the contract shall with the written approval of the Secretary of War or his duly authorized representative, be modified to provide for any increase or decrease of cost and/or difference in time resulting from such conditions.

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ARTICLE 5. *Extras.*—Except as otherwise herein provided, no charge for any extra work or material will be allowed unless the same has been ordered in writing by the contracting officer and the price stated in such order.

* * * * *

ARTICLE 15. *Disputes.*—Except as otherwise specifically provided in this contract, all disputes concerning questions of fact which may arise under this contract, and which are not disposed of by mutual agreement, shall be decided by the Contracting Officer, who shall reduce his decision to writing and mail a copy thereof to the Contractor at his address shown herein. Within 30 days from said mailing the Contractor may appeal in writing to the Secretary of War, whose written decision or that of his designated representative or representatives thereon shall be final and conclusive upon the parties hereto. The Secretary of War may, in his discretion, designate an individual, or individuals, other than the Contracting Officer, or a board as his authorized representative to determine appeals under this Article. * * *

THE SPECIFICATIONS

18. The specifications in Section I under the heading of "General Provisions" provided as follows:

1–03. GENERAL INFORMATION.

* * * * *

(d) *Excavation.*—The excavation for discharge channel No. 1 located in the north ridge on the east side of the river will involve approximately 1,191,000 cubic yards of excavation. The excavation for discharge channel No. 2 located in the south ridge on the east side of the river involves approximately 4,232,400 cubic yards of excavation. All excavated material suitable for use in the levee will be placed in the embankment and all other materials will be disposed of in designated disposal areas as designated by the contracting officer. Additional embankment material needed over and above that excavated from the discharge channels will be obtained from designated borrow areas as designated by the contracting officer. Foundation excavation and stripping will be disposed of in designated places.

* * * * *

1–05. QUANTITIES.—The following estimate of quantities of work to be performed under these specifications is given only to serve as a basis for canvassing offers and for determining the approximate amount of the consideration of the contract. Within the limits of funds available, the contractor will be required to complete the work specified in paragraph 1–02, be the required quantities more or less than the amounts herein estimated.

1–06. COMMENCEMENT, PROSECUTION AND COMPLETION.

* * * * *

(c) The contractor shall furnish sufficient forces, construction plant and equipment, and shall work such hours, including night shifts, Sunday and holiday work as may be necessary to insure completion of the work in accordance with the schedule in subparagraph (b) above. If in the opinion of the contracting officer, the contractor falls behind schedule, the contractor shall take such steps as may be necessary to improve his progress and the contracting officer may require him to increase the size of his working force, the number of shifts, days of work and/or the amount of construction plant, all without additional cost to the Government.

(d) If the completion of the undertaking to be performed under the terms of this contract be delayed by reason of delay in the delivery of materials or supplies essential to such performance because of War Priorities and without the fault or negligence of the contractor, the time of performance will be extended for a period equal to the delay caused to the entire undertaking as determined by the contracting officer, and subject to appeal, as provided in Article 9 of the contract.

* * * * *

1–13. ORGANIZATION, PLANT AND PROGRESS.

* * * * *

(c) The contractor shall furnish sufficient forces, construction plant and equipment, and shall work such hours, including night shifts and Sunday and holiday work as may be necessary to insure the prosecution of the work in accordance with the approved progress schedule. If, in the opinion of the contracting officer, the contractor falls behind the progress schedule, the contractor shall take such steps as may be necessary to improve his progress and the contracting officer may require him to increase the number of shifts, days of

work and/or the amount of construction plants, all without additional cost to the Government.

(d) Failure of the contractor to comply with the requirements of the contracting officer or his authorized representative under this provision shall be grounds for the determination of the contracting officer that the contractor is not prosecuting the work with such diligence as will insure completion within the time specified; and when such determination has been made, the contracting officer may terminate the contractor's right to proceed with the work or such part of the work as to which there has been delay, pursuant to Article 9 of the contract.

* * * * *

1–15. PHYSICAL DATA.

(a) From investigations, including surveys and explorations made at the site, it is believed that physical conditions are approximately as indicated on the drawings, but these data are not guaranteed.

* * * * *

(c) *Geology.*—Subsurface conditions have been developed by core borings, overburden sampling, test pits, and open shovel cut. The core and overburden samples are available for inspection at the U. S. Engineer Office, Denison, Texas. The plan and logs of the core borings drilled in the area of the site are shown on the drawings. The subsurface data included in the plans indicate the contracting officer's opinion as to materials encountered in making soundings intended to supply information in connection with the design of foundations. There is, however, no expressed or implied guaranty as to the accuracy of the borings or any interpretation of them. Each offerer must form his own opinion of the character of the material to be excavated from an inspection of the ground, put his own interpretation upon the borings made by the contracting officer, and make such other investigation as he may see fit.

* * * * *

1–29. MISPLACED MATERIAL.—Any material that is deposited elsewhere than the place designated or approved by the contracting officer will not be paid for, and the contractor may be required to remove such material and waste it or deposit it as directed.

1–40. LIQUIDATED DAMAGES.—Liquidated damages will not be prescribed. (See paragraph 1–13.)

19. Section IV of the specifications under the heading of "Excavation" provided as follows:

4–01. GENERAL.—Excavation under this contract shall consist of the removal, hauling, and disposal of any class of material encountered for the construction of the protective levee and river discharge channels as shown on the drawings, specified herein, or as directed by the contracting officer. It is the intent of these specifications to require the contractors to utilize all suitable materials excavated from the channels in the construction of the rolled-fill levees and contractors will not be permitted to substitute borrow materials therefor so long as suitable materials are available from the channels. This will result in the completion of certain portions of the rolled-fill above elevation 620 on or before November 15, 1943.

4–02. CHARACTER OF MATERIALS.—The locations and logs of core holes and test pits made by the United States to determine the character of materials to be removed and encountered are shown on the drawings. The open shovel cut was made with a 1¼ cubic yard, No. 6 Northwest shovel. Cores and samples of materials taken from these core holes and test pits are available for inspection at the U. S. Engineer Office, Denison, Texas. The contractor is expected to examine the site of the work, the logs of the borings, the samples and cores which are on display and, after investigation decide for himself the character of the materials to be removed.

* * * * *

4–05. EXCAVATION, BORROW.

(a) *General.*—The borrow excavation shall be taken from the different borrow areas indicated on the drawings, at the locations directed and to the depths approved by the contracting officer. The designated borrow areas and additional borrow areas, if required, will be furnished by the United States without cost to the contractor. The contractor may use any approved method of transporting material from the borrow area to the rolled-fill levee. If roads are required for the method he elects to use, he shall construct and maintain such roads and the cost of the roads shall be included in the contract unit price for borrow excavation. Borrow excavation shall include the grubbing and stripping where required of the borrow areas. Whenever, in the opinion of the contracting officer, it is necessary to change the location of the excavating equipment working in the borrow areas, in order to obtain suitable material, the contractor will be required to move his equipment to the designated location and the contractor

shall be entitled to no additional compensation because of such requirement. The contracting officer reserves the right to use more material from any borrow area to the exclusion of others to secure the most advantageous materials for construction of the levee.

(b) *Method of Excavation.*—All borrow excavation shall be made with approved equipment and in such a manner as may be required by the contracting officer in order to produce a well mixed and blended material for incorporation in the fills.

* * * * *

(4) *Lower Channel.*—The overburden materials in this area which are to be utilized in the rolled-fill are variable as to area. The Northwest area approximately 1,600 feet long is predominantly pervious and the Southeast area aproximately 2,400 feet long is predominantly impervious. These materials shall be excavated separately and routed to the pervious and impervious zones of the fill sections, respectively. Within the two separate areas any type of excavating equipment will be permitted so long as the expected uniformity exists.

(c) *Disposal.*—The disposition of excavated material shall be as directed by the contracting officer. Based on his analysis, excavated materials shall be placed in the pervious and impervious portions of the levee as shown on the drawings or wasted in the borrow areas as directed by the contracting officer. Approved material shall be placed in the levee in accordance with the provisions of Section V.

* * * * *

4–06. Excavation, Discharge Channels.

(a) *General.*—The contractor shall remove, haul, and dispose of any class of material encountered in the discharge channels as shown on the drawings or as directed by the contracting officer.

(b) *Removal.*—Excavation shall be made within the lines and to the slopes shown on the drawings or as directed by the contracting officer. All the overburden excavation as shown approximately on the drawing and as determined by the contracting officer during excavation will be used in the rolled-fill levee and shall be excavated as specified for borrow excavation hereinbefore. The remainder of the excavation is waste and may be excavated in any manner with approved equipment.

* * * * *

(d) *Disposal.*—The disposition of excavated materials from the discharge channel shall be as directed by the contracting officer. The approved overburden material shall be placed in the rolled-fill levee in accordance with the provisions of rolled-fill, Section V. All waste materials shall be placed in the disposal areas shown on the drawings. The waste material used adjacent to the rolled-fill and considered part of the levee, known as the blanket and placed in accordance with the requirements of the blanket, Section V and the river channel fills shall be spread in twelve (12) inch layers and compacted by the movement of the hauling and spreading equipment which shall be operated so as not to "track" the equipment which precedes it. That waste material not used above shall be disposed of in the manner and at the elevations directed by the contracting officer. All disposal areas shall be left in a neat condition, smoothly and evenly dressed, and sloped to drain. All stumps, roots, and logs shall be disposed of by burning or shall be covered in waste areas outside of the blankets.

(e) *Measurement and Payment.*

* * * * *

(2) *Payment.*—Payment for all excavation will be made at the respective contract unit price per cubic yard for "Excavation, Channel No. 1 to Fill Areas," "Excavation, Channel No. 1 to Disposal Areas," "Excavation, Channel No. 2 to Fill Areas," and "Excavation, Channel No. 2 to Disposal Areas," which shall include all cost of removal, hauling, and disposing of the materials in the designated areas to the complete satisfaction of the contracting officer.

20. The protective levee system comprised seven fill areas which were divided into three zones, designated as Zones I, II, and III. Zone I consisted of Fill Areas I, II, and III, Channel No. 1, and Borrow Areas "F" and "G." Zone II consisted of Fill Areas IV and V, Borrow Area "K" and a portion of Channel No. 2. Zone III consisted of Fill Areas VI and VII, Borrow Areas "C" and "D," and the remaining portion of Channel No. 2. Each zone contained a stream crossing and closure section. Throughout the length of the levee, intervals of 100 feet were designated by station numbers, commencing with Fill I in Zone I at approximately Station 10+00 and extending through Fill VII (Zone III) to approximately Station 298+00.

The levee in Zone I consists of three fill areas and the upper river closure. Fill Area I begins at approximately Station 10+00, where the northwest end of the embankment ties into the natural ground, thence in a southeasterly direction to Station 64+00. Fill Area II begins at Station 64+00 thence in an easterly direction across the Washita River to approximately Station 92+70. The upper river closure is included in this fill area, extending between approximate Stations 68+50 and 72+50. Fill Area III begins at Station 92+70 and extends in a southeasterly direction to Station 141+00.

The levee in Zone II consists of Fill Areas IV and V and the Rock Creek closure section. Fill Area IV begins at Station 141+00 and extends in a southeasterly direction across Rock Creek and its valley to Station 181+60 where the embankment ties into the natural ground. The Rock Creek closure section, extending from approximate Stations 158+50 to 159+50, is located in Fill Area IV. The natural ground forms the levee or embankment between the end of Fill Area IV at Station 181+60 to the beginning of Fill Area V at about Station 234+80. Fill Area V begins at Station 234+80 where the embankment ties into the natural ground and thence in a southwesterly direction to Station 254+03.

The levees in Zone III consist of Fill Areas VI and VII and the lower river closure. Fill Area VI begins at Station 254+03 and extends in a southwesterly direction to Station 275+00. Fill Area VII begins at Station 275+00 and extends in a southwesterly direction across the Washita River to Station 298+00, where the levee ties into the original ground and the filled levee terminates. The lower river closure is included in this fill area from approximate Stations 287+50 to 291+50.

21. Throughout the length of the channels, intervals of 100 feet were also designated by station numbers. Channel No. 1 (or the Upper Channel) is located northeast of Fill Area III. The upper or inlet end of the channel commences at approximately Station 10+00. The upper or inlet end of Channel No. 2 (the Lower Channel) begins at approximately Station 3+00. The beginning station is located north of Fill Area IV in the Rock Creek Valley.

22. Prior to the time his bid was submitted, the plaintiff made a thorough examination of the site and a careful study of the drawings, plans, and samples provided by the Corps of Engineers. In March 1943, the contractor's party spent three or four days at and near the site. The party returned for a further examination of the site and a study of the plans in April 1943, several days before the bid was submitted.

23. The drawings which were made available to plaintiff in March of 1943 were preliminary drawings that had been prepared for use in drafting the contract plans and specifications. On one sheet of these drawings two proposed cut sections of Channel No. 2 were illustrated. Both drawings indicated that the channel was to be cut through a ridge which rose from an elevation of 610 feet at the bottom of the cut to an elevation of approximately 688 feet. The profile of the original ground surface of the proposed channel showed a ridge with the peak or highest elevation in about the center of the proposed cut. From this peak the ground surface line sloped sharply to either side, but depressions in the ground surface line were also indicated on each side of the cut. These drawings and similar contract drawings, described in finding 24, were on a scale which was distorted vertically in relation to the horizontal in accordance with the usual engineering practice for illustrating relatively large areas on a paper of reasonable size.

Each drawing also contained the profile of the shale line below the ground surface line. The shale line conformed generally to the outline of the ground surface line except that the shale line was smoother and more regular. On one of the two drawings, no depressions in the shale line were shown at the points immediately below depressions in the ground surface line. On the other drawing, a slight dip in the shale line was indicated below a large depression in the surface line.

The logs of two core borings were shown on the first drawing and the logs of three core borings were set out on the second. The presence of water was not indicated in either of the borings.

24. Channel No. 2 was to be cut through a ridge and involved an excavation to a maximum depth of 80 feet from elevation 690, the high point on the ridge, to elevation 610 feet at the channel floor. The contract drawings, which were more numerous and in greater detail than the preliminary drawings, indicated good drainage in the area in which the channel was to be excavated. One of the drawings contained a profile showing the original ground line of Channel No. 1 and Channel No. 2. As in the case of the preliminary drawings, the profile of the original ground surface for Channel No. 2 showed that the channel was to be cut through a ridge having an elevation of 610 feet on either end and reaching an elevation of 690 feet at about the center of the area. This profile indicated a sharper slope and a faster run-off than the profile of the ground line of Channel No. 1, which was shown on the same drawing.

A plan of the proposed channel, which had contour lines indicating the elevation of the ground at various points, showed that the general direction of the drainage from elevation 690 feet in about the center of the proposed cut to the lower or outlet end was parallel to the line of the channel. The direction of the drainage in the upper end of the channel, beginning near the high point and extending from Station 35 to Station 10, was toward the channel and thence to the opening at the upper end. The upper end of the channel was located to take maximum advantage of a draw which extended into the ridge at that point. The elevation at the upper end was 610 feet, the specified elevation for the channel floor, and the land immediately to the north sloped into the natural declivity, which was at an elevation of about 592 feet.

25. Prior to the issuance of the formal plans and specifications, the Corps of Engineers conducted an extensive exploration of the subsurface conditions on the project through a series of core and auger borings. More than 300 auger borings were made down to the shale line or to refusal. They were spaced 500 feet to 1,000 feet apart in a checkerboard pattern over the project. The core borings, which were carried below the shale line, were made only at strategic locations. There were only two core borings in the vicinity of Channel No. 2, and they were spaced from 700 feet to 800

feet apart. Since the project encompassed a large area and involved no masonry or structural work, the Corps of Engineers considered that the coverage of the borings was adequate.

26. Included in the contract plans were the logs of 91 core and auger borings. A total of 14 core and auger borings was shown on the plans in the vicinity of Channel No. 2. No water or wet material was shown in any of these borings. The two core borings nearest the area in Channel No. 2, where wet material was later discovered, included one boring in the proposed channel and another about 700 feet away. Neither boring disclosed any wet or saturated materials. The logs of seven borings were shown in the contract plans on the profile of Channel No. 2. There was no indication of water or wet material in any of these borings. However, four of the seven borings were "projected" and were not located in the immediate area to be excavated.

In the general vicinity of Channel No. 2 there were three borings showing the discovery of water and wet materials in the areas which were to be foundations for the levee closures. These borings were made in the river valley and indicated a general water table below the bed of the proposed channel.

27. The contract drawings did not show a profile of the shale line below the ground surface line as was illustrated on the preliminary drawings. However, the core borings, which were carried down through the shale, indicated that shale was encountered at varying elevations. The logs of the borings shown on the profile of Channel No. 2 indicated that the material to be excavated consisted of mixtures of sand, clay, and silt, interspersed with clay lenses.

28. The area in which the two channels were excavated was located on the northeastern slope of the land leading down into the valley of the Washita River. The general topographic slope was from the northeast toward the southwest and into the valley of the river. The area was dissected on the planar relationship by Kansas Creek and Rock Creek, two live streams which flowed throughout the year in a southwesterly direction into the valley of the Washita.

The average annual rainfall in the area where the contract was performed is 36 inches.

At the time the site was available for investigation by bidders, an old well, known as the old Fort Washita well, was situated about 3,500 feet northeast of proposed Channel No. 2. It contained a small quantity of ground water, which was at a higher elevation than the designated elevation of the channel floor. There were also two springs at a point near the base of a hill about 3,000 feet southwest of the proposed channel. The springs, which emptied into concrete retaining tanks, were at a higher elevation than the bottom of the proposed channel cut. Near the southeast outlet of the channel there was a cistern, which contained water at an elevation of 650 feet, and near the southwestern end of the channel, there was another cistern which had water at an elevation of about 628 feet. About 2,000 feet west of the proposed channel, there was a small draw where water seeped at an elevation higher than the specified elevation for the channel floor.

29. Since ground water will ordinarily seep through pervious overburden down to impervious shale and then follow the grade of the shale line, the contractor, in his study of the drawings, and the logs of the borings, expected that there would be no accumulated surface water in the overburden and that the material would be dry. This conclusion was, in part, based on the fact that the only core or auger borings which indicated the presence of water were the three borings made in the river valley in the areas where the foundations for the levee closures were to be located.

In addition to the information disclosed in the contract drawings and by the borings, there were other factors which lent plaintiff's assurance that material to be encountered in the excavation of the channel would be dry.

The terrain indicated a good drainage slope away from the proposed channel. Local residents complained to plaintiff's representatives about the lack of water in the region, stating that the water supply was often insufficient for their livestock except at the river itself. The core samples displayed by the Corps of Engineers showed that the moisture content of the soil in the borings taken in the area

of proposed Channel No. 2 was 17 percent. Plaintiff's engineer, who had had some experience with comparable soils, concluded that the moisture content was close to optimum and that it would probably be necessary to add some water to the material to get good compaction. An official of the Corps of Engineers, who escorted the contractor's party over the site in March of 1943, advised that the contractor's principal problem would be the difficulty of obtaining a sufficient supply of water for wetting the fill areas.

30. In the excavation of Channel No. 2, the contractor encountered a considerable volume of saturated and wet material in the upper end of the channel. It was found between Stations 3 and 10, between Stations 14 and 31, and between Stations 38 and 41. The presence of the wet material was due to the existence of two large depressions and a third and much smaller depression in the shale. The largest depression was found between Stations 16 and 30, another between Stations 38 and 41, and the third and smallest depression at Station 10. Within the depressions, the overburden was completely saturated over an area which averaged about five feet at a depth above the shale line to the extent that approximately 150,000 cubic yards of the material was in a semi-liquid or soupy state. Above the saturated material, there was a stratified material consisting of layers of clay and layers of wet sand, the average depth of which was approximately five feet to seven feet. The layers of clay varied in thickness from two inches to fifteen inches and in between the layers of clay were layers of fine wet sand, which, for the most part, were considerably thicker than the layers of clay. Before excavation, the sand appeared to be a homogeneous damp material. When it was removed, shaken, and vibrated, however, the sand became quaky and livery to the extent that free water rose to the surface. The quantity of the wet material lying above the saturated material was about equivalent to that of the saturated material. The material was sensitive to vibrations so that when it was dumped into a truck or when heavy equipment was operated over it, it went into a livery or semi-liquid condition.

31. The greater weight of the evidence establishes that the Corps of Engineers did not anticipate that the depres-

sions in the shale existed or that saturated and wet materials would be encountered in the excavation of Channel No. 2.

The evidence shows that neither the defendant's engineers, who were in charge of the field exploratory work and of analyzing the materials obtained from the borings or those in the Design Section, who computed the yardage of material required for the fill and borrow areas, expected that the contractor would find the condition which he encountered in the excavation of the channel.

Under the supervision and with the approval of the Chief of the Operations Division, there was prepared for the contracting officer a cost estimate, based on the Government's performance of the contract work with hired labor and the use of its own equipment but without any allowance for profit. The estimate was not furnished to any bidder but the costs set out therein were compared with the various bids for the purpose of determining whether such bids were reasonable. Although the estimate, which is in evidence as plaintiff's exhibit No. 48, does not contain work sheets showing in detail how each item of cost was calculated, the estimate shows that the defendant expected that the excavation of Channel No. 2 would proceed with greater efficiency than the excavation of Channel No. 1 or other borrow areas. The Government's estimate for the cost of excavating Channel No. 2, which involved an estimated total of 1,332,700 cubic yards, was 24 cents per cubic yard, whereas its estimate for the cost of excavating Channel No. 1, which involved an estimated total of 989,200 cubic yards, was 27 cents per cubic yard.

32. The saturated and wet material was found in areas between the points where the borings were made by the Corps of Engineers and at an elevation of about 35 feet above the water table in the valley below. It was an unusual, unknown, subsurface condition materially different from that shown by the drawings, borings or specifications, and could not reasonably be anticipated from a study of the drawings, borings and samples, or by an examination of the site.

33. The wet material was first encountered in June 1943, by the subcontractor, Jones, who was excavating in the upper end of the channel. Defendant's inspector permitted the

contractor to waste 150 cubic yards of such material, but immediately thereafter the inspector was overruled by the defendant's Resident Engineer, who directed that the material be placed in the fill.

34. After the wet material was encountered, the subcontractor carried on the excavation in a series of benches in an effort to provide drainage into the low point at the upper end of the channel. During the month of July, the subcontractor, at the suggestion of the Resident Engineer, dug a 20-foot ditch in an effort to drain the material. Both methods were ineffective because the material would not drain. The futility of the contractor's efforts to drain the material was demonstrated by the fact that seven years after the contract was completed, the 350-foot-wide channel itself had failed to drain the water from the wet material on the sides of the cut.

35. Plaintiff's bid of 39 cents per cubic yard for the excavation of Channel No. 2 was based on his expectation that he would encounter good, workable material, whereas his bid for the excavation of the levee foundations, where he expected to encounter wet material because this condition was shown in the borings, was $1.50 per yard.

In arriving at the amount of his bid, plaintiff planned to excavate by a steady progression through blocks. He proposed to use shovels for excavating the channel and to haul the material from a single point of excavation to the fill areas in Euclids. Each of these trailer-type vehicles is capable of transporting 13 cubic yards of material. The dumping of the material on the fill was to be followed by a sequence of spreading, sprinkling, and rolling equipment. In order to make a profit on the work at the bid price, the contractor contemplated a continuous, belt-line type of operation from excavation to final compaction.

36. When the wet material was encountered, it was necessary for plaintiff to excavate it with a dragline rather than with a shovel as had been planned. The soupy material drained from the bucket, and the loading efficiency of the equipment was greatly reduced. In order to use the wet material, defendant ordered plaintiff to mix it with alternate layers of dry material on the fill. This required excavation

operations in two places and entailed frequent moves of the equipment. The hauling equipment could be filled only to the water line with the semi-liquid material, and it would drain or slush out on the upgrades. It was difficult, and at times impossible, to move machinery through the wet material, both in the channel and on the fill. Plaintiff had to build ramps and had to haul out of the channel over steep grades when the Euclids were unable to pull through the floor of the channel.

From time to time, the defendant, pursuant to paragraph 1–13 of the specifications, ordered plaintiff to place additional equipment on the job so that the excavation could be completed by November 15, 1943. As a result of these orders and the difficulties caused by the wet material, it became necessary for plaintiff to double the number of hauling units he expected to use and to incur extra costs in the operation and maintenance of such equipment. On account of the damage caused when the soupy material flushed out on the haul roads, plaintiff was also obliged to incur additional costs in the maintenance of the roads.

37. The work on the rolled fill was also substantially increased on account of the wet material. It had to be dried for periods of from one-half day to three days, or an average of about three-fourths of a day. It was also necessary that the layers of wet material be placed in shallow lifts of four to six inches in thickness instead of the 9-inch and 12-inch lifts prescribed by paragraph 5–03 of the specifications. Haul roads of dry material had to be constructed through the wet areas on the fill, and the necessity of drying and mixing the wet material made it necessary for plaintiff to haul to and work on several zones of the fill simultaneously. As a consequence, plaintiff's planned method for excavating, hauling, and rolling the excavated material was disrupted. The equipment, which usually had to be operated at its maximum power, frequently broke down and repair costs were greatly increased.

38. Plaintiff's subcontractor, who excavated the major portion of the wet material in Channel No. 2, had bypassed portions of the wet and saturated material during the months of August and September. Representatives of the contract-

ing officer had ruled shortly after the wet material was encountered that the material was suitable for use on the fill. On October 12, 1943, they instructed plaintiff, by the letter quoted in finding 85, to remove the remainder of the saturated material in Channel No. 2. This instruction was given in order that the wet material could be removed during hot weather, during which it could be aerated and dried out more quickly than during the cooler months of the year, and in order that such wet material could be mixed with the dry material from the channel. In compliance with the instructions given, the contractor proceeded thereafter to excavate and place in the fills the remainder of the saturated material.

39. A total of 2,138,744.9 cubic yards of overburden was excavated from Channel No. 2. Of this amount, 1,095,922.3 cubic yards were excavated by plaintiff and placed in Fill Areas V, VI, and VII, and 1,042,822.6 cubic yards were excavated by the subcontractor, A. Raymond Jones, and placed in Fill Area IV. The upper 2,100 feet of the channel from Stations 0 to 21 were excavated by the subcontractor, and the lower 2,400 feet between Stations 44 and 70 were excavated by the prime contractor. Between Stations 21 and 40, the operations of the prime contractor and Jones overlapped, a portion of the overburden in that area being removed by each of them. Approximately 62 percent of the saturated material was excavated by the subcontractor and placed in Fill Area IV and the remainder was excavated by plaintiff and placed in Fill Areas V, VI, and VII. Although plaintiff has no adequate record as to how much of the wet material, which was found above the saturated material in Channel No. 2, was excavated by plaintiff and how much was excavated by the subcontractor, it is found as a fact from the records as a whole that plaintiff excavated 114,000 cubic yards of the wet and saturated material, and his subcontractor Jones excavated 186,000 cubic yards of the wet and saturated material.

40. Plaintiff claims that, as a result of the wet material found in Channel No. 2, his costs were increased to the extent of $705,277.71 and the extra costs of his subcontractor amounted to $639,492.62. However, the evidence shows that part of such claimed costs was due to other causes.

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41. Rainfall on the project during the months of May and June 1943 was heavy. On May 9, 1943, a flood on the Washita River inundated a part of the project area and twenty-two pieces of plaintiff's plant and equipment were trapped and partially covered by the flood waters. Plaintiff was not able to remove the equipment from the flooded area until May 18, 1943. On account of the flood, the time required for cleaning and overhauling the machinery, and heavy rainfall, progress during May and the early part of June was slow.

42. By the terms of that contract, plaintiff was required to and did submit to defendant a list of the machinery and equipment he proposed to use in the performance of the contract. Some of the equipment described in plaintiff's list was not on the job by June 5, 1943, on which date defendant made a field check of such equipment. Plaintiff's failure in this respect was partly due to rail congestions caused by floods, and to other delays in shipment but was also caused by plaintiff's failure to acquire some of the heavy equipment he had anticipated would be available at the time work began.

On account of the rains, the flood and the initial delays in getting the equipment on the project, plaintiff was five percent behind schedule on June 15, 1943. During July, however, progress was rapid. Plaintiff's production during that month was about 50 percent above the average monthly production required for completion of the contract on schedule.

43. From time to time during the period from May 2 to September 4, 1943, defendant wrote plaintiff that the equipment employed on the project was insufficient to complete the excavation of the channels and related work by November 15, 1943, and directed plaintiff to obtain and place additional machinery and equipment on the job. These orders were made during the war period when the great demand for and shortage of all types of construction equipment made it extremely difficult to purchase or lease any of such equipment without assistance from the Government. Despite the fact that the notice of award stated that the contractor could not expect to obtain assistance from the Government in

procuring new equipment, plaintiff called on defendant and through it obtained many units of equipment on a rental basis from supply depots, warehouses, and other Government sources. Although plaintiff complied with defendant's directions to the best of his ability, he was not able to obtain the various pieces of equipment specified in the several orders issued by defendant until some time after the orders were received, but by September 4, 1943, plaintiff had in operation on the project a considerably larger quantity of machinery and equipment than was described in the list submitted with his bid or that was considered necessary for the completion of the work by defendant's engineers at the time they prepared the Government's estimate of costs.

Plaintiff also had difficulty and experienced some delay in obtaining supplies, repairs and parts for his plant and equipment and received assistance from defendant in obtaining such supplies and parts.

The defendant's demands for the additions to the contractor's plant and equipment were made pursuant to paragraph 1–13 of the specifications and were actuated by defendant's concern for completion of essential items of the work by November 15, 1943, the date fixed for closing the Denison Dam.

44. Plaintiff's rock subcontractor had difficulty in securing sufficient labor for the delivery of riprap and crushed stone to the work areas in time to keep pace with other portions of the work. To avoid undue delay on this account, the defendant permitted the construction of certain fill areas to continue, with a modified arrangement for placing the riprap and crushed stone as it was made available.

Plaintiff completed the excavation of the overburden in Channel No. 1 on September 23, 1943, and the excavation of that channel on November 17, 1943. However, plaintiff was not able to complete the excavation of Channel No. 2 by November 15, 1943, the date required by the contract, and, after some discussion with the Resident Engineer, made a written proposal to the defendant, under the terms of which plaintiff was to proceed with the closure of the Washita River and Rock Creek Channels on the basis of completing by November 15, 1943, a restricted diversion channel 200 feet

wide instead of 350 feet wide. Defendant's acceptance of plaintiff's proposal was set forth in Modification No. 4, which recited that the contractor's failure to complete the work on November 15, 1943, was due to unforeseeable causes beyond his control and without his fault or negligence, and provided that the remaining 150 feet of required channel width was to be completed at a later date and on the condition that the contractor would assume all extra costs that might be incurred as a result of diverting stream flows through Channel No. 2 prior to its completion to the full design, section and grade. Plaintiff completed the overburden excavation in Channel No. 2 on December 3, 1943, and the shale excavation on January 25, 1944.

45. As stated in finding 9, plaintiff obtained extensions of time aggregating 63 days on account of delays caused by weather conditions during the winter months and a subcontractor's inability to hire a sufficient supply of labor for laying riprap stone.

46. The difference between the reasonable cost of the work, if wet and saturated material had not been encountered in Channel No. 2, and the actual cost due to such wet and saturated material amounted to the sum of $214,253.88 for the portion of the work performed by plaintiff and $339,677.98 for that part of the work performed by his subcontractor, A. Raymond Jones. Each of these amounts includes the extra costs incurred on the rolled fill on account of such wet material, and each contains an allowance of 10 percent for overhead and profit. These sums are broken down as follows:

	Excavation and hauling	10 percent overhead and profit	Total	Rolled fill	10 percent overhead and profit	Total	Total extra cost
Shepherd (prime contractor)	$159,126.90	$15,912.69	$175,039.59	$35,649.35	$3,564.94	$39,214.29	$214,253.88
Jones (subcontractor)	259,628.10	25,962.81	285,590.91	49,170.06	4,917.01	54,087.07	339,677.98

47. During the progress of the work, plaintiff did not make any written complaint to the contracting officer or any of his representatives against the use of the wet material, nor

did the plaintiff submit to the contracting officer or his representatives any written claim or contention to the effect that the wet materials constituted a changed condition for which an adjustment in price should be made under the provisions of article 4 of the contract. The facts with respect to the oral complaints and claims made by plaintiff and the action taken thereon by defendant's representatives are set forth in subsequent findings under the heading "Protests and Appeals."

OVERRUN OF PERVIOUS MATERIAL IN CHANNEL NO. 1

48. Certain provisions of the contract and the specifications, which are relevant to this claim, are quoted in findings 17, 18, and 19.

49. Articles 2 and 3 of the contract provided as follows:

> ARTICLE 2. *Specifications and drawings.*—The contractor shall keep on the work a copy of the drawings and specifications and shall at all times give the contracting officer access thereto. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of difference between drawings and specifications, the specifications shall govern. In any case of discrepancy in the figures, drawings, or specifications, the matter shall be immediately submitted to the contracting officer, without whose decision said discrepancy shall not be adjusted by the contractor, save only at his own risk and expense. The contracting officer shall furnish from time to time such detail drawings and other information as he may consider necessary, unless otherwise provided.
>
> ARTICLE 3. *Changes.*—The contracting officer may at any time, by a written order, and without notice to the sureties, make changes in the drawings and/or specifications of this contract within the general scope thereof. If such changes cause an increase or decrease in the amount due under this contract, or in the time required for its performance, an equitable adjustment shall be made and the contract shall be modified in writing accordingly. Any claim for adjustment under this article must be asserted within 10 days from the date the change is ordered: Provided, however, That the contracting officer, if he determines that the facts justify such action,

may receive and consider, and with the approval of the Secretary of War or his duly authorized representative, adjust any such claim asserted at any time prior to the date of final settlement of the contract. If the parties fail to agree upon the adjustment to be made the dispute shall be determined as provided in Article 15 hereof. But nothing provided in this article shall excuse the contractor from proceeding with the prosecution of the work so changed.

Other provisions of the specifications, which are relevant to this claim, read as follows:

1–04. DRAWINGS.

(a) The work shall conform to the following drawings, entitled "Red River, Denison Dam and Reservoir, Cumberland Oil Field Protective Levees" which form a part of these specifications.

* * * * *

(c) The work shall also conform to such additional drawings and addenda to these specifications, as may be published or exhibited in the office of the contracting officer prior to the opening of proposals, and to such drawings in explanation of details or modifications as may be furnished by the contracting officer from time to time during construction including such changes as the contracting officer may consider necessary on account of special conditions encountered during prosecution of the work.

* * * * *

1–31. MINOR MODIFICATIONS.—The right is reserved to make such minor changes in the execution of the work to be done under these specifications, as, in the judgment of the contracting officer, may be necessary or expedient to carry out the intent of the contract; provided, that the unit cost to the contractor of doing the work shall not be increased thereby; and no increase over the contract amount will be paid to the contractor on account of such change.

* * * * *

4–05. EXCAVATION, BORROW.

* * * * *

(b) *Method of Excavation.*—All borrow excavation shall be made with approved equipment and in such a manner as may be required by the contracting officer in order to produce a well mixed and blended material for incorporation in the fills.

(1) *Upper Channel.*—The overburden materials in this area which are to be utilized in construction of the rolled-fill are stratified both as to cross-section and area. There are areas of fairly clean sand that will require excavation without mixing in order to construct the pervious zones of the fill section of the levees in fill Area II. This required pervious zone is comparatively small in section and may be enlarged if pervious material is encountered in larger quantities. The contractor will be permitted to excavate by means which does not mix the comparatively pervious and impervious materials to the extent that he routes the pervious materials to the landside portion of the fill and to the extent that he routes the impervious materials to the riverside portion of the fill.

* * * * *

(c) *Disposal.*—The disposition of excavated material shall be as directed by the contracting officer. Based on his analysis, excavated materials shall be placed in the pervious and impervious portions of the levee as shown on the drawings or wasted in the borrow areas as directed by the contracting officer. Approved material shall be placed in the levee in accordance with the provisions of Section V.

50. Channel No. 1, which was also referred to in the contract documents as the Upper Channel, was approximately 3,300 feet in length with a 600-foot base width and a maximum depth cut of about 40 feet. Four hundred feet of the base width was at elevation 610; 200 feet of the base width was at elevation 600. The earth work distribution table on the contract plans showed that the estimated excavation of Channel No. 1 would amount to 1,190,900 cubic yards of materials, consisting of 989,200 cubic yards of overburden to be placed in Fill Areas II and III, and 201,700 cubic yards of shale. According to the distribution table, Fill Area II was to be constructed of 742,100 cubic yards of overburden from Channel No. 1, 302,100 cubic yards of material from Borrow Area "G" and 100,000 cubic yards of material from Borrow Area "F". Fill Area III was to be constructed with 247,100 cubic yards of material, all of which was to be overburden from Channel No. 1. In the Government's estimate of quantities of materials to be excavated and placed in the several fill areas, there was no breakdown between pervious and impervious materials.

51. The preliminary drawings, which were issued by the Corps of Engineers in March 1943, contained a profile of the ground through which Channel No. 1 was to be cut, showing that the overburden above the shale was composed of sandy, silty clay and a relatively small area of silty sand. The log of only one core boring was shown on the drawing. It indicated that the material encountered, beginning at the ground surface, consisted of about six feet of clay containing some silt with traces of sand, about three feet of very silty loose sand, and that the remainder of the material above the shale varied from medium sand to fine gravel. The log of one core boring and the logs of the five auger borings in Channel No. 1 were shown in one of the contract drawings. The presence of clean sand, containing less than 10 percent of fines, was indicated only in one core boring, which showed that the depth of such clean sand was about five feet. However, the same core boring showed that immediately above the clean sand there was a deposit of sand containing from 20 to 34 percent of other soils and that the depth of this sandy deposit was approximately 10 feet. In addition, two of the auger borings showed that 50 percent or more of the material found was sand containing from 10 to 34 percent of other soils. The remaining three auger borings indicated the presence of impervious material.

52. Typical cross-sections for the several fill areas were shown on sheet 15 of the contract plans. The cross section for Fill Area III showed that such fill area was to be constructed entirely of impervious material. The cross-section for Fill Area II showed that a comparatively small section of the levee immediately adjacent to the rock toe drain on the land side was to be constructed of pervious material, and that the remainder of the fill was to be composed of impervious material. The small pervious section was outlined on the drawing with a dashed line and there was a note, referring to the depth of the pervious zone, which read "10′ min."

53. The proper design of the levee required that the riverside be constructed of impervious soil to prevent the seepage of river water into the structure. The purpose of the pervious toe, which was required for Fill Area II and several

other fill areas, was to provide drainage for water that seeped into the embankment.

The explorations in Channel No. 1 indicated a considerable variability, both laterally and vertically, of types of material. On the basis of the exploratory data, it appeared to defendant's engineers that the quantity of pervious soil in Channel No. 1 would not be sufficient to develop a sectionalized levee with definite zones of pervious and impervious materials. Therefore, Fill Area II was designed to allow some latitude in the use of pervious soil. These considerations led to the formulation of paragraph 4–05 (b) (1) of the specifications, which was issued as an addenda on April 12, 1943, five days after the issuance of the contract drawings. The last two sentences of paragraph 4–01 of the specifications were also included in an addendum of April 12, 1943.

54. On the basis of the information shown on the typical cross-section for Fill Area II, plaintiff determined that the pervious toe on the land side of the levee would be about 60 feet wide and 10 feet high, and that he would have to excavate and place in the pervious area only 56,690 cubic yards of pervious material. After an examination of the drawings and borings, he concluded that the amount of pervious material to be encountered in the excavation of Channel No. 1 would not exceed his estimate of 56,690 yards by more than 10 percent. Except for a small area of clean sand, he expected to find impervious materials throughout Channel No. 1, and his bid was submitted with that expectation. He planned to excavate the overburden in the channel down to the shale with elevating graders, an efficient and economical method of excavating and unloading. He anticipated that he would have to excavate approximately 60,000 yards of clean sand and that this material would have to be handled separately from the remainder of the overburden. However, for the major portion of the overburden in the channel, he assumed that he would be able to carry on a continuous operation of excavation, hauling, spreading, sprinkling, and compaction. He planned that the work on the fill would proceed in large blocks and that the entire fill would be available as his work area.

55. During the early part of July 1943, it became apparent that the quantity of pervious material in Channel No. 1 would greatly exceed the quantity estimated by the contractor, as well as the quantity required for constructing the area indicated on the drawings as the minimum pervious zone in Fill Area II.

This condition became evident when the levee embankment was about 10 feet above ground level. The overburden material excavated from Channel No. 1 and used in Fill Areas II and III consisted of approximately 350,000 cubic yards of sandy material, which was classified in the final cross-sections made by defendant's engineers as pervious and random pervious material, and 450,985 yards of impervious material.

Overlying the shale, there was a deposit of clean sand which was about two feet in depth and covered two-thirds the length of the channel. A portion of this deposit immediately above the shale was wet but the remainder was dry. The top of the overburden consisted of impervious material, which extended from the surface down to an average depth of six or seven feet throughout the length of the channel. Between the impervious material and the deposit of clean sand above the shale, the greater bulk of the material was a coarse sand, interspersed at points with some layers of clay. There is considerable conflict in the evidence as to the nature and character of the sandy material. A laboratory analysis of samples of the coarse sand, taken from an area extending for a distance of about 400 yards along one side of the excavation bank, showed that the coarse sand was a pervious material which contained less than 10 percent of fines. The quantity of such pervious material was much greater than was indicated in the borings, but some of the sandy material contained a higher percentage of clay, silt, and other impervious soils. As material was excavated and the fills were constructed, the defendant's engineers on the job classified a considerable portion of the coarse sandy material as random pervious, a designation denoting that it did not fall clearly within the pervious or impervious classifications. The term "random pervious" was not referred to in the contract, specifications, or drawings, and during the progress of the work and until the date the final cross-sections were prepared this

sandy material was designated in the official reports of the engineers as pervious material. From the contractor's standpoint, which was based on workability rather than proper design of the levee, there was little or no distinction between the material classified as pervious and that classified as random pervious.

56. When it became apparent that the quantity of pervious material in Channel No. 1 would greatly exceed the quantity required to construct the small pervious zone, indicated as the minimum pervious zone on the typical cross-section for Fill Area II, the Resident Engineer directed his subordinates in the field to shift the stakes so as to divide the impervious material from the pervious and random pervious materials at the center line of the levee. As the material from the channel was excavated, the contractor was directed to place the material, which the defendant's inspectors decided was clearly of an impervious nature, on the riverside of Fill Areas II and III. When material was encountered, which the inspectors determined was without question a pervious material, the contractor was ordered to place it in the designated pervious zone of Fill Area II. Although the exact extent of the pervious zone is not shown in the record, it extended to an elevation which the engineers determined would provide drainage for water that seeped into the embankment. This left a considerable quantity of coarse, sandy material which the contractor was required to place on the land side of Fill Area III and on the land side of Fill Area II above the designated pervious zone. As a result of this action, the pervious zone in Fill Area II, which on the typical cross-section was shown as a small area having a minimum depth of 10 feet and located adjacent to the rock toe drain, was enlarged to the extent that the lower 1,807 feet of Fill Area II on the land side was constructed entirely of pervious and random pervious material. The defendant also required plaintiff to place a 4¼-foot blanket of impervious material on top of the pervious area. The design for Fill Area III, which according to the typical cross-section was to be built entirely of impervious material, was changed to the extent that most of the land-side half of the levee was constructed of pervious and random pervious material. As in the case

of Fill Area II, the contractor was required to place a cap of impervious material about two feet thick on top of the pervious and random pervious zone.

57. The Resident Engineer informed plaintiff's representatives that his action in moving the stakes on the fill areas was authorized and contemplated by the provisions of the specifications. His decision was approved by the defendant's Chief of Operations and also by the contracting officer, Colonel Wanamaker.

During one of his visits to the site, the contracting officer was informed about the overrun of pervious material in Channel No. 1 and the fact that the Resident Engineer had enlarged the pervious zone in Fill Area II and changed the design of Fill Area III in order to use the additional material. He discussed the matter with the Chief of Operations and, although he did not issue a formal ruling on the question, he decided that paragraph 4–05 (b) (1) of the specifications reserved to the contracting officer the right to modify the design of the levee sections within acceptable design standards in order to make the best use of the materials found on the job and that as much as one-half of the levee sections involved could be changed from impervious to pervious material without an increase in the contract price. He also decided that the contractor was required by the provisions of paragraph 4–01 of the specifications to use the pervious and random pervious materials found in the channel without regard to the information shown on typical cross-sections as to the pervious and impervious zones in the two fill areas.

There is no evidence that at the time he made the informal ruling mentioned above the contracting officer considered whether or not the additional pervious and random pervious material encountered in the excavation of the channel constituted a changed condition within the meaning of article 4. The contracting officer's conclusion was not communicated to plaintiff.

58. During the progress of the work, plaintiff made no written protest to the defendant against the use and excavation of the pervious material involved in this claim, nor did plaintiff make any written claim that the excess material found in the channel was a changed condition under article

4 of the contract or that the alteration in the levee sections was a change in the drawings and specifications within the meaning of article 3 of the contract. The facts with respect to the oral complaints and claims made by plaintiff to defendant's representatives are set forth in subsequent findings under the heading "Protests and Appeals."

59. No findings are made as to whether or not the additional pervious and random pervious material encountered in Channel No. 1 was a subsurface or latent condition materially differing from that shown on the drawings or indicated in the specifications, nor are any findings made as to plaintiff's additional costs resulting therefrom, for reasons indicated in finding 98.

CLAIM FOR WORK ON ROLLED FILL

60. The specifications provided:

5–03. ROLLED-FILL.

(a) *Placement.*—After completion of the foundation preparation, the rolled-fill levee shall be constructed to the elevation, lines, grades, and cross sections indicated on the drawings or otherwise directed by the contracting officer, plus such increased height and width as may be determined necessary to allow for subsequent shrinkage or settlement, but in no case will such increased heights and widths exceed 2 percent of those shown on the drawings. The riverside slope of the rolled-fill levee to be covered with protective stone shall be placed and compacted to a line not less than six (6) inches outside of the required fill section. The excess material shall be removed and the surface trimmed and dressed to the grades or payment lines indicated on the drawings or staked in the field prior to placing the protection. No separate payment will be made for dressing the surfaces but the cost thereof shall be included in the contract unit price for fill. The landside slope of the rolled-fill levee shall be maintained to the lines and grades constructed until accepted by the Government. The required materials shall be secured from the borrow areas indicated on the drawings and from the discharge channels excavation. The use of materials from the different parts of the borrow areas or excavations will be determined acording to the grading of the material and its suitability for rolling. No brush, roots, sod, frozen material, or other perishable or unsuitable material, or

stones of twelve (12) inches or greater maximum dimensions shall be placed in the levee. Any rolled-fill material that may be lost or loosened, after being placed in the levee and before the completion and acceptance of all work under the contract, because of floods, elements, operations of the contractor, or for other causes that, in the opinion of the contracting officer, were avoidable or under the control of the contractor, shall be replaced by and at the expense of the contractor in a satisfactory manner. In the event that it is determined that such loss is not due to fault or negligence on the part of the contractor, the rolled-fill levee shall be replaced at the contract unit prices. The rolled-fill levee shall be constructed in approximately uniform horizontal layers for the entire width of the cross-section of the rolled-fill and for the entire length of the area under construction except as follows: the difference between the elevation of the impervious and pervious portions shall not be greater than three (3) feet, and the construction of the blankets shall be as specified in paragraph 5–01. The top surface of the rolled-fill during construction shall be raised or crowned with grades not to exceed two (2) percent so that the fill will drain freely. Stones less than twelve (12) inches in maximum dimensions and gravel shall be carefully bedded to avoid any cavities or seepage planes. After dumping, the materials shall be spread by approved methods in approximately horizontal layers. These layers shall not be greater than nine (9) inches in thickness for the impervious portion and twelve (12) inches for the pervious portion. If, in the opinion of the contracting officer, the rolled surface of any layer of material is too smooth to bond properly with the succeeding layer, it shall be roughened or loosened by scarifying or other approved method before the succeeding layer is placed thereon. If, during construction any part of the rolled-fill levee becomes frozen, it shall be scarified and rerolled after it has thawed. If work is stopped on the section of the rolled-fill levee for a period of time the area shall be rolled with a smooth roller weighing not less than seven hundred (700) pounds per linear foot of roller to prevent loss of moisture and facilitate drainage. Before work is resumed in that area it shall be scarified and rerolled with sheepsfoot rollers. No separate payment will be made for the above scarifying and rerolling. The contractor will be required to break up the earth fill materials, either in the borrow area or on the rolled-fill levee, to such maximum size as is determined necessary by the contracting officer,

to provide optimum compaction in the rolled-fill levee. Stones of greater than twelve (12) inches in maximum dimensions, removed from the rolled-fill levee section may be placed on the riverside riprap of the levee. Roots, debris, and trash removed from the loose materials shall be hauled away and destroyed or disposed of as directed.

* * * * *

(c) *Moisture Control.*—The material in each layer, while being compacted by rolling, shall contain the amount of moisture required for optimum compaction, as nearly as is practicable, as determined by the contracting officer, and the moisture content shall be uniform throughout the layer. The watering shall be done with any type of watering equipment which will give the required results, but jets shall not be directed at the material with such force that the finer materials are washed out. The amount of sprinkling shall be controlled so that no free water will appear on the surface during or subsequent to the rolling. Should too much water be added to any part of the rolled-fill levee, such that the material is too wet to permit, in the opinion of the contracting officer, the desired compaction, the rolling and all work on that section of the rolled-fill levee shall be delayed until the material has dried to the required moisture content. Because of the hot dry winds prevalent at the site, the contractor will be required to keep placed earth fill materials wetted to a degree which will prevent drying out of the surface and assure proper bond with succeeding layers of the earth fill, as determined by the contracting officer.

(d) *Type of Rollers.*—Rollers used for compacting earth fills shall be of the studded tamping or "sheepsfoot" type. The feet shall extend approximately seven (7) inches in clear projection from the roller's cylindrical surface and shall be so spaced as to result in approximately three (3) tamper feet per two (2) square feet of roller area. The area of each tamping foot shall be approximately seven (7) square inches, and the feet when worn down to an area of not less than six and twenty-five hundredths (6.25) square inches shall be replaced by new ones or shall be increased in area to seven (7) square inches by approved methods. All rollers shall be of the full oscillating type and not more than two (2) drums shall be mounted in any section. The drums shall be so spaced that the distance between the tamper feet from one drum to the next will be uniform with the spacing on the drums. If rollers are

used in tandem, the tamper-foot spacing shall be offset so that the circumferential rows on the rear drums are in line with the midpoints between the circumferential rows on the forward drums. All rollers shall be provided with cleaner bars so designed and attached as to prevent the accumulation of material between the tamper feet. When rollers are moved either forward or backward, as may be necessary near the tops of embankments, they shall be equipped with cleaner bars on each side. The weight of the roller when empty shall be not less than one thousand two hundred (1,200) pounds per linear foot of tread. The weight of the rollers shall be increased by ballasting with water, sand, or saturated sand up to the full capacity of the drums whenever required to obtain foot pressures of three hundred (300) pounds per square inch, and the contractor shall receive no additional compensation because of such increased weight requirements. The load per tamper foot shall be determined by dividing the total weight of the roller by the number of tamper feet in one (1) row parallel to the axis of the roller. The roller shall be pulled by a crawler type tractor, weighing not less than twenty thousand (20,000) pounds, of suitable power, at a speed of approximately two and one-half (2½) miles per hour. Other types of rollers, when approved by the contracting officer in writing, may be used in the manner and to the extent approved.

(e) *Compaction.*

(1) Each trip of the compacting roller shall overlap the preceding trip by not less than two (2) feet. The dumping, spreading, sprinkling, and compacting of the rolled fill levee may be carried on simultaneously at different locations on the levee fill when so approved.

(2) The necessary compaction of the rolled fill levee will be determined by standard laboratory tests made prior to and during the progress of the work. Each layer of the foundation and rolled fill levee shall be rolled by a sufficient number of passes of the sheepsfoot roller, estimated from the laboratory tests, to produce a density of at least 90% of the density obtained by standard laboratory tests. The laboratory test on which the 90 percent density criterion is based consists of a compromise between the standard Procter test and the modified A. A. S. H. O. test. The required standard is 90 percent of the density obtained with the standard Procter equipment, with the number of compacting blows increased from 25 to 40 per layer. The resulting density obtained is higher than the standard Procter,

but lower than that obtained by the modified A. A. S. H. O. method. No separate payment will be made for additional passes should they be found necessary by the above laboratory tests. Restricted areas, where, in the opinion of the contracting officer, it is impossible to use the above method, shall be refilled in four (4) inch layers, wetted and tamped to give compaction approximately equal to that required for the rolled-fill.

(3) If, in the opinion of the contracting officer, the rolled surface of any layer of material is too smooth to bond properly with the succeeding layer, it shall be roughened or loosened by scarifying or other approved method before the succeeding layer is placed thereon.

(f) *Removal of Objectionable Material.*—The contractor will be required to excavate and remove from the rolled-fill sections any material determined objectionable and to refill the area as directed by the contracting officer at no cost to the Government.

(g) *Measurement and Payment.*

(1) *Measurement.*—Measurement for payment for the rolled-fill levee will be based on a survey made over the foundation areas immediately after grubbing, stripping, foundation excavation if necessary, have been completed. Measurement will be made between the specified lines and grades and the foundation surface as surveyed above, without regard to any changes that may occur during the prosecution of the work, except as provided in paragraph 5–03 (b).

(2) *Payment.*—Payment for the rolled-fill levee will be made at the contract unit price per cubic yard for "Rolled-Fill" which price shall include all costs of labor and equipment for rolling the foundation, for spreading, moistening, and rolling the layers, for dressing and maintaining the slopes and all other costs in connection herewith except for the excavation and haul of materials used.

61. The rolled-fill operations commenced in Fill Areas III and IV on May 19, 1943, and were completed in all fill areas on April 15, 1944. A total of 5,543,716.1 cubic yards of material was excavated and hauled to the seven fill areas. After compaction, this quantity was reduced to 4,847,467.4 cubic yards of embankment in place. Plaintiff was paid for the rolled-fill work at the contract price of six cents per cubic yard. The evidence shows that the costs of performing the work were substantially more than the amount received from

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the defendant. As will appear from succeeding findings, these excess costs were due to a number of causes.

62. The material excavated by the contractor from the two channels and the designated borrow areas was hauled to the fill areas in Euclids, carry-alls, scrapers, and other units. Thereafter, when the material was dumped, it was usually spread by bulldozers and, where the addition of water was required, the material was sprinkled with water from water trucks. Frequently, it was necessary to scarify the material in order to mix the moisture that had been added and to provide a proper bond between the various layers. The last operation consisted of rolling the material in order to compact it to the density required by the terms of the contract.

63. The contract required that, while each layer of the material was being compacted, it should, as nearly as practicable, contain the amount of moisture required for optimum compaction. The contract also specified that the compaction of the fill would be determined by standard laboratory tests made prior to and during the progress of the work, and that each layer of the fill should be rolled by a sufficient number of passes of the sheeps-foot roller, estimated by laboratory tests, to produce a density of at least 90 percent of the density obtained by standard laboratory tests. The procedure contemplated by paragraph 5–03 (e) (2) of the specifications involved the taking of samples from the materials to be excavated and the determination of the dry weight per cubic foot of a particular material when it was compacted 100 percent. The density criterion for that material would be 90 percent of its dry weight. The method for determining when a layer of material has been compacted to a density of 90 percent consists of taking samples of the compacted material while work is in progress, testing the material in the laboratory and comparing the dry weight of a cubic foot of such compacted material with the density criterion for the same material.

The optimum moisture content of material is that amount of moisture which permits 100 percent compaction with the least effort. The procedure for determining the amount of moisture needed to attain optimum moisture for a material to be compacted consists of taking grab samples of the mate-

rial dumped on the fill before it is compacted, determining its moisture content in the laboratory, and then estimating the amount of moisture needed to be added or the extent of drying required to attain optimum moisture.

In order to make the density and moisture tests required by the contract, the defendant established on the project site a soils laboratory which was supervised by a soils engineer who had assisted in compiling the soil data for the design of the project. During the peak of the work, a staff of ten or eleven men were employed part-time in the laboratory and two sampling crews were used during each working shift to obtain samples of both the material dumped on the fill and the compacted material for making the moisture and density tests in the laboratory. The samples were taken in accordance with approved practices for such work and, as the samples were tested, a daily written report of the results was prepared by the laboratory staff. Copies of these reports were sent to the project office, the district office, and the district laboratory at Denison. In the beginning, copies of the reports were also supplied to the contractor, but this practice was discontinued by the Chief of Operations, who found that it was not required by the terms of the contract. When the defendant ceased to furnish reports, no complaint was made by plaintiff. Daily results of the sampling were posted in the inspector's shack and were available at that point for inspection by plaintiff's representatives. Reports applicable to each section of the levee were given to the inspector in charge of the fill from which the samples were taken.

64. In studies made in connection with the design of the project, the defendant found and tested thirty-nine different soils, including ten pervious and twenty-nine impervious soils. Although these tests were made for the design of the work rather than for control of the rolled-fill operations, they served to show the variability of the soils to be encountered. This variability indicated the necessity of using adequate standards or criteria in the laboratory testing process in view of the differences in density per cubic foot of the different soils. Because of the differences in density, a comparison of the dry weights of the two soils against a single criterion in

the laboratory tests may often show that one soil has been compacted approximately 100 percent and that the other has been compacted less than 90 percent.

The reports of the laboratory tests made by defendant during the progress of the work are in evidence as plaintiff's exhibits Nos. 13 and 14. The reports show that for the impervious soils placed in Zone I, which included Fill Areas I, II, and III, the defendant used a single density criterion of 120 lbs. per foot until July 31, 1943. At that time the criterion was changed to 118.8 lbs. and that standard was used until the conclusion of the job. For Zones II and III, which included Fill Areas IV, V, VI, and VII, only one density criterion was used for the entire job. For the pervious materials, a single density criterion of 115.8 was used in Zone I until August 20, 1943, when it was changed to 116 lbs. per cubic foot, and that criterion was used for the remainder of the work. For the pervious soils in Zones II and III, one density criterion was used throughout the job.

The twenty-nine impervious soils have an optimum density range from 96 to 125 lbs. per cubic foot, and the use of a single criterion meant that the 90 percent density required by the specifications was being measured against the dry weight of a single soil. An accurate and adequate control of the compaction of the fill could not have been obtained unless at least four or five criteria had been used contemporaneously for the impervious materials placed in the fill. The two criteria used for the pervious materials were also inadequate for proper control of the compaction of the fill.

65. As has been stated, there was considerable variation in the soils to be excavated and they were stratified both as to cross-section and area. During the course of the excavation, the contractor's equipment mixed materials which, by laboratory analysis, would be considered different soils. At times, equipment was working in different areas of a channel or borrow pit, but the excavated material was hauled to the same fill area. Because of these conditions, it would have been impossible for the defendant to establish and use an operating criterion for each type of soil for the purpose of making a reasonably accurate prediction in advance of rolling as to the number of passes that would yield the required

compaction on any layer of fill. However, it would have been possible for the defendant to classify the soils found in each zone into four or five major categories and to have applied appropriate criteria for these major classes. The use of such criteria coupled with rolling tests on the fill would have provided reasonably accurate information in advance for rolling other soils of the same type. The practical difficulty of making tests and providing advance information to plaintiff was increased because of the high moisture content of the wet material excavated from Channel No. 2 and because the defendant required plaintiff to mix layers of the wet material with layers of dry material.

66. The compaction range reasonably necessary to obtain a minimum density of 90 percent over the entire fill, taking into account the variability in the soils, was from 90 percent to 96 percent. The Corps of Engineers made density tests of 1,315 samples of the impervious materials after compaction on the fill. On the basis of the criteria used by the defendant, eighty of the samples had a density of less than 90 percent and 1,235 samples had a density of 90 percent or above. The average density was 94.4 percent. There is a strong probability that if adequate standards had been used, the percentage of compaction reported would have been nearer 100 percent than the percentages shown in the reports.

Density tests were made of 380 samples of the pervious material, and the reports of the Corps of Engineers, in evidence as plaintiff's exhibits Nos. 13 and 14, show that twenty-two of the samples had a density of less than 90 percent; 358 samples had a density of 90 percent and above, and the average density was 96.8 percent. A study, made by a competent soils engineer of the tests in terms of the moisture content and density of the samples of the pervious materials placed in Fill Areas II and III, indicated that such pervious soil was compacted to the extent of approximately 100 percent of its optimum density.

The soils engineer, referred to above, made a study based on a random selection of approximately 30 percent of the samples of impervious soil used in the test made by the Corps of Engineers. The materials selected for study were on the wet side of optimum. It was found that 75 percent of

the material had a density that could not have been obtained except by excessive rolling. The study indicated that from fifteen to eighteen passes of the roller were probably used to compact the material, whereas from six to eight passes would have been sufficient for material of optimum moisture content.

67. Within a short time after the work under the contract began, the Resident Engineer determined that eight passes of the heavy rollers then being used by plaintiff's subcontractor and ten passes of the lighter rollers used at that time by the prime contractor would be required to obtain the necessary compaction of the rolled fill. The decision was made following observations on the fill after some early rolling operations and was not based on laboratory tests. Although the plaintiff was not advised of this determination, the inspectors on the fills were instructed to require the contractor to make eight passes with the heavy roller and ten passes with the light roller in every instance, except where the laboratory tests showed a failure to obtain compaction. In that event, the instructors were to require additional rolling. This procedure was followed throughout the construction of the rolled fill.

The inspectors on the fill customarily received reports showing the moisture content and the density of samples taken from the fill during a period from six to twelve hours before the report was received. Using the report of moisture content as a guide, the inspectors decided whether additional sprinkling or drying out of the material was required. When a density report showed a failure as to compaction, the inspectors tried to determine the cause of the failure by a study of the report. If the material had not been covered by a succeeding layer, the correction was made by requiring the contractor to add moisture or to dry out the soil as needed, and then directing him to make additional passes. When an area had to be completely reworked with an addition of moisture or by drying of the material, the contractor was required to make ten additional passes in addition to the original ten passes. If a laboratory report, showing less than the required compaction, was received when only a portion of the specified rolling had been com-

pleted, the inspectors generally required only four or five additional passes. The inspectors frequently required more than the specified eight or ten passes, but there were comparatively few instances when the contractor was required to completely rework an area that had been rolled.

The defendant did not advise plaintiff in advance as to the amount of sprinkling that would be required to bring any layer of the fill to its optimum moisture content, nor did the defendant give plaintiff any information in advance as to the number of passes that would have to be made in order to obtain the required compaction on a particular layer of the fill. Instead, and as stated above, the inspectors used the laboratory reports as a guide and directed plaintiff to sprinkle and roll the fill until they were satisfied, from visual inspection, that the proper amount of water had been added and the required compaction had been obtained.

68. The inspectors on the fill were authorized by the Resident Engineer to shut down the contractor's operations whenever the inspectors decided that the material had not been watered sufficiently or been rolled a sufficient number of times to meet the density requirements of the contract. During the latter part of July or early part of August 1943, a dispute arose between the contractor's foremen and the defendant's inspectors on the fill areas in Zone I because of the refusal of the foremen to comply with the orders of the inspectors in that area. The orders, which gave rise to the dispute, related to decisions made by the inspectors as to the sufficiency of the sprinkling and rolling operations of the contractor. On August 4, 1943, the Resident Engineer called a conference for the purpose of resolving the dispute. Plaintiff's superintendent and other representatives of both parties were present. There is a conflict in the evidence as to what was said by each of the parties, but at the conclusion of the meeting, plaintiff's superintendent agreed that he would instruct plaintiff's foremen to comply with the orders of the inspectors. It was also agreed that in the event the foremen disagreed with the directions issued by the inspectors, the work on the fill would not be stopped, but the dispute would be reported to plaintiff's superintendent who would thereupon present the question to the Resident Engineer for final

determination. There were occasions during the course of the work when plaintiff's foremen were away from the fill areas on other assignments at times when instructions were given by the inspectors. In order to avoid cessation of operations during the temporary absence of the foremen, the parties agreed at the conference that the inspectors' instructions would, during the absence of the foremen, be given to the operators of the water trucks and rollers but that such instructions would be reported by the inspectors to the foremen upon their return. After the conference, the inspectors continued to exercise control over the operations on the fill in the same manner as during the period before the meeting.

69. During the time he served as contracting officer, Colonel Wanamaker received no oral or written complaints that plaintiff was required to perform excessive sprinkling or rolling operations on the fill. During the trial of the case, however, he testified that, in his opinion, paragraph 5–03 (e) (2) obligated the Corps of Engineers to make laboratory tests periodically for the purpose of ascertaining and advising the contractor as to the number of passes that would be necessary to produce the required density on the rolled fill.

70. During the construction of the rolled fill, plaintiff did not request defendant to supply information in advance with respect to the amount of sprinkling that would provide optimum moisture in any layer of the fill or as to the number of roller passes that would obtain the required compaction on any layer of the fill. However, on a number of occasions throughout the period of the contract, plaintiff and his representatives orally complained to the Resident Engineer that plaintiff was being required to perform excessive rolling and watering operations on the fill. In some instances, the Resident Engineer inspected certain fill areas upon complaint by plaintiff's superintendent that the inspectors were requiring excessive watering of the areas in question. As a result of the inspection, the Resident Engineer determined that the areas had been watered excessively and issued orders to prevent a recurrence of the condition which caused the complaint.

71. Prior to May 15, 1944, when plaintiff's written claims were filed, plaintiff made no written or oral complaints to the Chief of Operations, or to either of the contracting officers

that the information provided by defendant was inadequate for proper control of the rolled fill or that plaintiff had been required to wet or roll the fill excessively.

72. On May 11, 1943, before any rolling operations had been performed, the plaintiff wrote the defendant with respect to the type of rollers required by paragraph 5–03 (d) of the specifications as follows:

> In line with conversations we had with you this date at your office on the Project, at which Mr. H. G. Shepherd, Mr. Crowe, and Mr. Lee were present, we are submitting for your records the following information.
>
> Since and even before the award of this contract, this Company has made every endeavor to procure either by purchase or rental Tamping Rollers which will meet the specifications set up in the Addenda of this contract. To date we have been unable to locate any already fabricated and have also been unable to find any manufacturer who will produce them in any reasonable length of time due to the operations of priorities and other Governmental regulations.
>
> In view of our inability to obtain these rollers within a reasonable length of time, we are hereby requesting your authority to proceed with the rolling, using the equipment which we now have, the type of which are similar to the rollers produced by the LeTourneau Company and which have the same pressure per square inch. We realize by using this equipment it will entail considerable more passes over the fill and will require more tamping units. If we are able to use this type of equipment, we can immediately proceed with the construction of the embankment and there will be practically no delay by doing so.
>
> We have also been unable to locate for purchase or rental Oscillating Smoothing Rollers as required in the same Addenda. In view of this, we are respectfully requesting your permission to use standard Sheep's Foot Rollers without the pins. We are now placing on the project a good number of pieces of equipment which cannot be operated unless we have Tamping Rollers and we therefore will appreciate any consideration which you may give the above request at your earliest convenience.

At the time the letter was sent, it was very difficult to obtain rolling equipment of the kind required by the specifications. On that account, the Chief of the Operations Division wrote to plaintiff on May 12, 1943, as follows:

Receipt is acknowledged of your letter dated May 11, 1943, relative to sheepsfoot rollers for use on the subject contract.

It is not the desire of this office to waive weight requirements for sheepsfoot rollers on the Cumberland Project. It is our firm belief that heavier rollers will accomplish the desired results with the minimum of time and accessory equipment and that they should be obtained. However, in order not to delay the work it will be permissible to use temporarily the rollers you now have provided they are loaded to obtain the maximum possible weight and that you replace them with rollers meeting the specifications with all possible dispatch. Density and compaction requirements shall be as specified.

Your attention is invited to the fact that the Le Tourneau Company is not the sole manufacturer of sheepsfoot rollers. In this connection our Mr. Oliver has been given, for transmittal to you, the names of various manufacturers who list rollers meeting our specifications on weight.

It is noted that the rollers you have weigh only 250–270 pounds per square inch of tamping surface when ballasted with sand and water. Attention is invited to the possibility of ballasting with Baroid or Colox which are two and three times heavier than sand, respectively. These weighting materials may be obtained from oil field supply houses or from the Baroid Sales Division, National Lead Company, 502 Tulsa Building, Tulsa, Oklahoma.

In the list of equipment which plaintiff submitted to the Government, plaintiff included eight rollers for use on the fill. Early in June, the prime contractor brought to the job six rollers, which when weighted with a chemical solution, had a foot pressure of 275 lbs. per square inch instead of the 300 lbs. per square inch required in the specifications. At a later date, the prime contractor obtained a larger roller which had a foot pressure of 450 lbs. per square inch. The lighter rollers used by the prime contractor were primarily designed for highway rolling. In the beginning, the area of the tamping foot on the rollers was at least seven square inches as required by the specifications but through continued usage, the tamping feet became worn somewhat below specification requirements. Within certain limits, a roller having seven inches of tamping feet will compact an area with a lesser

number of passes than when the feet are worn down to a smaller size. In addition to the rollers provided by the prime contractor, plaintiff's subcontractor, Jones, had four large rollers, each of which had a foot pressure of more than 500 lbs. per square inch.

73. The watering trucks used by the prime contractor consisted of 1000-gallon water tanks, each of which was mounted on a truck chassis. Most of the trucks were in a poor state of repair. Sprinkling was effected by spray bars attached to the rear of the trucks. No pumps were provided to maintain a constant water pressure, the water being fed by gravity into the spray bars. Plaintiff's subcontractor had a water truck of greater capacity and in better repair, but it was also of the gravity-feed type. The volume of water delivered on the fill depended on the speed of the trucks and the amount of water in the tanks. The water was released through spray bars that were manually operated by the drivers of the trucks. At times, the truck motors died and at other times the valves would not close to shut off the water. As a result, much of the sprinkling was uneven and there were occasions when excessive quantities of water were released on the fill. The efficiency of the watering equipment affected the amount of rolling required and the results of such watering were also reflected in the density tests made in the defendant's laboratory.

74. In order to obtain sufficient water for the fill areas, the contractor had to haul water from a number of locations, some of which were a quarter of a mile distant from the fill areas. Occasionally, he was not able to provide sufficient water to keep the work on the fill in continuous operation, and it became necessary to shut down the work until additional water was obtained.

75. There were a few instances during the construction of the fill when the contractor had rolling equipment on the fill areas but did not have a new area immediately available for rolling operations. Instead of stopping the equipment until a new area became available, the contractor continued to roll the completed area. Although this practice was not extensive, it did result in over-compaction of the fill in some locations.

76. At the beginning of the work, all of the ring samples used in the laboratory tests for density were taken from the bottom of the top layer on the fill. Sometime during the month of July, however, the Resident Engineer instructed the engineer in charge of the laboratory to have the samples taken in the second or third lift. This method of sampling gave plaintiff the benefit of the additional passes made on the succeeding lifts and increased the densities obtained and reflected in the laboratory tests.

77. Plaintiff's bid of six cents per cubic yard for the rolled-fill item of the contract was based in part on plaintiff's previous experience in constructing a levee on a considerably smaller project and on observation of the rolled-fill operations performed by another contractor on the Denison Dam. Plaintiff estimated that he would be able to compact the fill to the density required by paragraph 5–03 (e) (2) of the specifications by six passes of the sheepsfoot roller on the impervious material and by three or four passes on the pervious material. From a study of paragraph 5–03 (a) of the specifications, plaintiff expected that he would be able to lay the pervious material on the fill in 12-inch layers and the impervious material in 9-inch layers. As stated in preceding findings, plaintiff planned to operate his equipment in a steady and continuous sequence on each block of the full operations.

There were major differences, both as to contract provisions and as to the conditions under which the work was performed, between the rolled-fill work at the Denison Dam and at the project involved in this action.

In the Denison Dam contract, there was no specified density requirement. There, the contract price covered seven passes with the heavy rollers on impervious and random pervious materials and six passes on the pervious materials. When the Government required additional passes, the contractor was paid for these as an extra. The contract price on the Denison Dam fill was eight cents per cubic yard for the compaction of the impervious and random pervious materials and six-and-a-half cents per cubic yard for the compaction of the pervious materials.

Although the Denison Dam contract did not specify the type of watering equipment to be used on the fill, the contractor used large water trucks, each of which had a capacity from 2,500 to 3,000 gallons of water. Each water truck was equipped with a spray bar which was fed by a pump. With this equipment the contractor was able to sprinkle the fill uniformly from the time he started with a full tank until the tank was empty.

All of the rollers used by the contractor at Denison Dam were of the heavy type, similar to the four rollers provided by plaintiff's subcontractor. These heavy rollers weighed 500 to 550 lbs. per square inch of tamping surface.

The Denison Dam contract was entered into in 1940 when labor was cheaper and when construction machinery, equipment, parts, and supplies were more readily available than in 1943, when plaintiff entered upon the performance of the contract involved here.

78. A document showing the abstract of bids and the Government's estimate of costs for the several items of work is in evidence as plaintiff's exhibit No. 7. As stated in finding 5, the Government's estimate for the cost of the rolled fill was .136 cents per cubic yard. Plaintiff's bid was .06 cents per cubic yard, the bid of the Morrison-Knudsen Company, Inc., was 15 cents per cubic yard and the bid of Peter Kiewit Sons Company was 6 cents per cubic yard.

Four days after the contract was awarded to plaintiff, plaintiff subcontracted the rolled-fill work required for Fill Area IV to the A. Raymond Jones Company at a price of 10½ cents per cubic yard. Although the subcontractor received 4½ cents per cubic yard more than the contract price for that part of the rolled fill constructed by him, a number of other items of work were subcontracted to Jones at less than the contract price so that plaintiff made a substantial profit on the subcontract as a whole.

Although the evidence is conflicting, the greater weight of the evidence establishes that the reasonable cost of the rolled-fill work, based on the provisions of the contract and the information generally available to bidders when the bids were submitted, was 10 cents per cubic yard or 4 cents per cubic yard more than plaintiff's bid on that item of the contract.

79. Plaintiff placed and compacted a total of 3,713,295.4 cubic yards of rolled fill and his subcontractor, Jones, placed and compacted 1,134,172 cubic yards of rolled fill.

Plaintiff claims that the difference between the reasonable cost of the rolled-fill work and the actual cost was $568,460.97 and that of this amount $301,432.89 was due to the Government's breach of contract with respect to the control of the rolled-fill.

80. In accordance with the provisions of paragraph 1–42 of the specifications, the Government maintained a record of the contractor's cost of performing the several items of work. The record shows that on item 5, the rolled-fill work, plaintiff sustained a loss of $261,900 and that his subcontractor, A. Raymond Jones, lost a total of $115,002.79. The information contained in the report was based on data supplied by plaintiff, but several of the major items of cost were allocated by Government representatives on a basis that is not satisfactorily explained in the record. The report is inaccurate in many respects, because of errors contained in the data submitted by plaintiff and the Government's erroneous treatment of some of the information received by it.

81. It is not established by the record that plaintiff and his subcontractor incurred any costs in excess of the reasonable cost of constructing the rolled-fill which are not attributable to the wet material encountered in Channel No. 2, the unexpected quantity of sand found in Channel No. 1, delays caused by weather conditions and a shortage of labor, the inadequacy of plaintiff's bid on the rolled-fill work, the rolling equipment used in compacting the fills, the inefficiency of the watering equipment used on the fills, and the facts described in findings 74–75.

PROTEST AND APPEALS

82. By letter of May 4, 1943, plaintiff was requested to address all correspondence to the District Engineer (contracting officer), for the attention of the Resident Engineer. Apart from this instruction and the provisions of the contract and specifications, the contractor was given no advice by the Corps of Engineers as to the procedure to be followed

or as to the authority of the subordinates of the contracting officer. Article 28 of the contract provided:

> ARTICLE 28. *Definitions*
>
> * * * * *
>
> (b) Except for the original signing of this contract, and except as otherwise stated herein, the term "Contracting Officer" as used herein shall include his duly appointed successor or his authorized representative.

83. The contract was signed by Colonel W. W. Wanamaker, Corps of Engineers, who was the District Engineer, U. S. Engineer Office, Denison, Texas. He served as contracting officer until September 1, 1943. He was succeeded by Major E. J. Wanless, who was Acting District Engineer and acting contracting officer from September 1, 1943 to January 1, 1944, when he was appointed District Engineer and contracting officer. H. L. Johnson was Chief of Operations and assistant to the District Engineer during the entire period of the contract, and Marshall N. Oliver was the Resident Engineer throughout the period of the contract. During the period involved here, the District Engineer at Denison, Texas, was contracting officer for several hundred contracts, including twenty-five major projects. Colonel Wanamaker made two trips to the project during the four-month period he was contracting officer. Major Wanless was at the site on one or two occasions in the following nine months prior to the final inspection and acceptance of the work.

Because of the large volume of contracts under the supervision of the contracting officer, the details relating to the construction under plaintiff's contracts were left largely in the hands of the Chief of Operations and the Resident Engineer. Johnson was delegated full authority to secure performance of the contract in accordance with its provisions. In the field, the Resident Engineer was delegated full authority to administer the contract and see that the work was performed in accordance with the provisions of the contract. In case there was any question in his mind as to the application or interpretation of any provision of the contract or specifications, Oliver was obligated to present the question to the Chief of Operations. Neither the Resi-

dent Engineer nor the Chief of Operations had authority to issue change orders or to increase the contract price by modifications. With respect to change orders based strictly upon interpretation of the specifications, Johnson had authority to have such change orders prepared, but all change orders and modifications to the contract had to be approved and signed by the contracting officer before they became valid.

The contractor was expected to take up all matters with the Resident Engineer in the first instance. If the contractor was dissatisfied with the decision of the Resident Engineer, plaintiff was required to present the matter to the Chief of Operations, who rendered a decision based on his interpretation of the specifications. Johnson frequently acted as referee in disputes between contractors and resident engineers, and on several occasions he resolved disagreements that arose between plaintiff and Oliver.

84. During the progress of the work, there was considerable correspondence between plaintiff's representatives and defendant's representatives regarding delays, interpretation of the plans and specifications, modifications to the contract, changes in quantities of material, compensation for extra work performed by plaintiff and the like. Such correspondence, which includes a total of 176 letters, is in evidence as plaintiff's exhibit No. 3.

One or two letters were signed by plaintiff, but the majority of the letters in plaintiff's behalf were written by plaintiff's engineer and were addressed either to the Resident Engineer, or to the District Engineer, for the attention of the Chief of Operations.

In a few instances letters from the defendant were signed by the contracting officer, who transmitted change orders executed by him, but the great bulk of the letters from the defendant were signed by the Chief of Operations. All but one of the defendant's letters which affirmed or set aside a ruling made by the Resident Engineer with respect to an interpretation of the plans or specifications, or which authorized payment for work performed by plaintiff in excess of the requirements of the contract, or which accepted plaintiff's proposal for modifications to the contract were written

by Johnson, who usually signed such letters "For the District Engineer."

In a number of instances, letters from the defendant authorized payment to plaintiff for work performed a considerable time prior to the date of the letters.

A letter dated October 12, 1943, was written by Johnson to plaintiff regarding the use of the wet material encountered in the excavation of Channel No. 2 and plaintiff replied on October 15, 1943. These letters are quoted in part in finding 85. Except in the two letters, no reference was made in any of the correspondence to the matters involved in this action.

85. The facts with reference to the oral complaints made by plaintiff, during the time the contract was being performed, concerning the wet material found in Channel No. 2 are as follows:

In June 1943, promptly after the wet material was encountered, plaintiff's subcontractor complained to the Resident Engineer against the direction that the material be placed in the fill.

Within a short time after the material was found plaintiff's superintendent called the attention of the Resident Engineer and the Chief of Operations to the presence of such material and stated that its excavation and placement on the fill was increasing the contractor's costs. Johnson, the Chief of Operations, saw the wet material on several occasions and concurred in Oliver's decision that it was suitable for use on the fill.

Sometime during the latter part of June 1943, Colonel Wanamaker, the contracting officer, visited the project in company with Johnson. On that occasion plaintiff's superintendent pointed out the wet material which was being excavated and stated that it was bad material, but he did not contend that it was a changed condition nor request that the contracting officer investigate the condition for the purpose of authorizing an adjustment in the contract price. Colonel Wanamaker did not make any comment at that time regarding the material, but he subsequently discussed the condition with Johnson and knew that Johnson and Oliver had determined that the material was suitable for use on the fill.

About July 1, 1943, the plaintiff, W. C. Shepherd, and his engineer, conferred with the Resident Engineer. Plaintiff complained about the additional costs that were being incurred on account of Oliver's requirement that the wet material be excavated and placed on the fill and as a result of Oliver's insistence on excessive watering and rolling of the fill. Plaintiff stated that he expected to be paid for such additional expense and inquired whether he should shut down the job and submit a written statement covering the matters under discussion or whether he should file the claim at the end of the job. Oliver informed plaintiff that the work was behind schedule; that he would not permit the job to be shut down and that plaintiff would have to continue with the prosecution of the work as directed by the Resident Engineer. Oliver also stated that the proper time for plaintiff to submit his complaint and claim was at the conclusion of the job. In view of Oliver's statement and the fact that neither the quantity of the wet material nor the cost of handling it could be determined until the work was completed, plaintiff believed that his claim would receive consideration on its merits after the contract was completed and he made no effort to pursue the matter further at that time.

W. C. Shepherd visited the project and conferred with Oliver again on August 8, 1943, and September 27, 1943. On each of these occasions he renewed the complaints and the demands which he had made during the July 1943 conference. The evidence does not establish that Oliver made a promise or commitment at such conferences that plaintiff's claim would be paid or considered, but the Resident Engineer did advise plaintiff that the appropriate time for filing his claims was at the completion of the contract.

Sometime during August 1943, plaintiff's subcontractor, who excavated and placed a portion of the wet material on the fill, telephoned Johnson to request assistance in obtaining some equipment. During the conversation, Johnson was asked if he did not think the subcontractor should have additional compensation for handling the wet material, and Johnson answered in the negative.

During the month of August 1943, plaintiff's superintendent, Herbert Shepherd, went to the District Office at Denison

for the purpose of acquainting the contracting officer with the conditions encountered on the job. In a conference with Colonel Wanamaker, plaintiff's superintendent discussed the problems of handling the wet material found in Channel No. 2 and the unexpected quantity of pervious material encountered in Channel No. 1. He referred to the difficulties the contractor was having with the rolled fill, but he made no complaint about the orders or directions that were being issued by the Resident Engineer or the Government inspectors, nor did he complain that the contractor was being required to wet and roll the fill to an extent not required by the contract. Plaintiff's superintendent did not discuss the question of the contractor's additional costs nor request the contracting officer to make a decision which would result in an increase in the contract price.

Colonel Wanamaker informed plaintiff's superintendent that Oliver and Johnson had determined that the wet material and the sand were suitable materials and that plaintiff should use them in the construction of the rolled fill. Beyond that, the evidence as to the statements made by the contracting officer is vague and indefinite. Plaintiff's superintendent left the conference with the impression that the matters discussed would be left open for later consideration.

Although he did not disclose his intention to plaintiff's superintendent at the August 1943 conference, Colonel Wanamaker intended, at a later date, to review all of the evidence relating to the wet material for the purpose of determining whether it was a condition which called for an adjustment of the contract price under the terms of Article 4 of the contract. He never got to that point, however, because he was transferred out of the district on September 1, 1943, with only 48 hours' notice. He never advised his successor or any of his associates of his conversation with plaintiff's superintendent.

During his visit to the project in October 1943, Johnson learned that plaintiff had ceased excavating and using the wet material in Channel No. 2. He discussed the matter with Oliver and with plaintiff's engineer and, on his return to the District Office, he wrote plaintiff under date of October 12, 1943, as follows:

> Your attention is directed to paragraphs 4–06 (a), (b), (d), and paragraph 4–01, as amended, of the con-

tract specifications, which state that all overburden materials shall be used in the rolled fill sections of the levees as directed by the contracting officer. Information obtained from the field reveals that at present you are not attempting to excavate usable wet pervious material which must be removed from Channel No. II at this time in order to utilize it with the remaining dry pervious material.

Under the provisions of the above contract specifications, you are directed to excavate and place in the earth levee all overburden material as directed by the contracting officer or his duly appointed representative.

Your immediate compliance with your contractual obligations is requested.

By letter of October 15, 1943, to the Resident Engineer, plaintiff replied as follows:

We wish to acknowledge receipt of your letter of October 12, the subject matter of which was the Use of Suitable Materials from Channel No. II Excavation in Rolled Fill Sections of Levees.

It is our intention to always comply with the terms of the Contract in this regards.

Major Wanless, who became acting contracting officer after the departure of Colonel Wanamaker, had very little personal knowledge about the wet material in Channel No. 2. On one of his visits to the project he observed that the contractor was excavating wet material, but he had no discussion with any of plaintiff's representatives or with any of his subordinates regarding such material prior to the time that plaintiff's claim was filed with him.

Plaintiff called the attention of Oliver, Johnson, and Wanamaker to the wet material within a short time after it was encountered, and each of them knew something of the difficulties involved in handling such material and that its excavation and use would increase the contractor's cost. Johnson and Oliver had ample opportunity to investigate the condition before it was disturbed, and Colonel Wanamaker had an opportunity to investigate the condition within a short time after Oliver had required plaintiff to proceed with the excavation and placement of the material.

86. In addition to the oral complaints, referred to above, during the progress of the work defendant's soils engineer, who was Chief of Laboratories in the office of the District

Engineer at Denison, periodically visited the site and made reports to the District office. Nine of the reports for the period from August 13, 1943, to November 24, 1943, are in evidence as plaintiff's exhibit No. 6. The reports, which were addressed to the Chief of the Operations Division, were in sufficient detail to show the nature and extent of the wet material encountered by plaintiff and the difficulties experienced by him in excavating and rolling the material on the fill. The monthly cost reports also showed that the contractor's expenses for excavating the wet material exceeded his bid price during the period between June and November 1943. Both of these reports were available to Major Wanless, the contracting officer, but in view of the large number of projects under the supervision of his office, he did not devote any attention to the study of such reports.

87. As stated in finding 47, plaintiff did not, during the course of the job, file with any of defendant's representatives a written notice, claim, or protest relating to the wet material. During the time the work was performed, plaintiff did not advise Johnson or the contracting officer that the wet material constituted a changed condition within the meaning of Article 4 of the contract, or request either of them to investigate the condition for the purpose of authorizing an increase in the contract price.

88. The facts with respect to oral complaints made by plaintiff, during the course of the work, to defendant's representatives concerning the overrun of pervious material in Channel No. 1 are as follows:

Early in July 1943, when the Resident Engineer changed the levee design for Fill Areas II and III in order to utilize the additional pervious material found in Channel No. 1, plaintiff's superintendent complained of Oliver's decision to use rather than to waste the excess sand. On various occasions thereafter, plaintiff's superintendent talked with Oliver about the overrun of pervious material and stated that it was increasing the contractor's costs.

Johnson was apprised of the overrun of pervious material shortly after it was discovered. He discussed the matter with Oliver and concurred in Oliver's decision with respect to the use of the excess sand and the change in the levee design.

Colonel Wanamaker learned of the overrun of pervious material in Channel No. 1, and on one of his visits at the site saw that the design of the fill had been changed. He discussed the question with Oliver and Johnson and made the informal ruling which is set forth in finding 57. The overrun of pervious material in Channel No. 1 was one of the subjects which plaintiff's superintendent discussed with Colonel Wanamaker at the conference in August 1943.

During the conferences he had with Oliver on August 8, 1943, and September 27, 1943, W. C. Shepherd complained about the excess sand encountered in Channel No. 1 and stated that he expected to be paid for the additional cost of excavating and placing sand on the fill.

There is no evidence that Major Wanless had any knowledge of the overrun of sandy material in Channel No. 1 or of any complaint made by plaintiff with respect thereto until plaintiff's claim was filed with him on May 15, 1944.

89. Oliver, Johnson, and Colonel Wanamaker had notice of the overrun of the pervious material in Channel No. 1, and they concurred in the change in the levee design. Each of them had an opportunity to investigate the condition at or within a short time after it was discovered, but each of them determined that the specifications required plaintiff to use the excess material and authorized defendant to change the levee design without making an increase in the contract price.

Prior to the time the contract was completed, plaintiff did not advise Johnson or the contracting officer that he was asserting a claim under Article 3 or Article 4 of the contract with respect to the overrun of the pervious material in Channel No. 1, nor request either of them to investigate the condition for the purpose of authorizing an increase in the contract price.

90. On September 19, 1943, plaintiff sent an engineer to the project and directed that he organize the records and compile the material for the presentation of plaintiff's claims upon the completion of the contract. No representative of the defendant was advised that the claim was in course of preparation, but Oliver knew that plaintiff intended to file some claims. The work of preparing the claims was com-

pleted during the latter part of April or the early part of May 1944.

The completed document, which is in evidence as plaintiff's exhibit No. 27, enumerated, described, and itemized ten claims, of which those material to this action are listed in finding 11. Those items material to this action will be discussed with greater particularity in subsequent findings.

91. Plaintiff, accompanied by his engineer and subcontractor, went to the District Office on May 15, 1944, after acceptance but before final settlement of the job, to confer with Wanless, Johnson, and Oliver. After the parties had agreed on the adjustment of a number of minor items, plaintiff handed the volume of papers containing the ten claims to the contracting officer. At that time, plaintiff made no reference to the prior oral conversations and conferences which plaintiff and his representatives had with Oliver and Wanamaker. Upon observing the volume of papers constituting the claims, the contracting officer informed plaintiff that time would be required for a study of the claims. Neither he nor his subordinates suggested that the claims were untimely.

About two weeks later, plaintiff's engineer returned to inquire what action had been taken on the claims and was informed by the contracting officer that they were still being studied.

92. The contracting officer referred plaintiff's claims to his staff for review, and on June 19, 1944, denied plaintiff's claim in a letter which read as follows:

> Receipt is acknowledged of your letter dated May 15, 1944 requesting additional compensation on the subject contract by reason of various alleged acts of Government representatives, and of conditions encountered during the prosecution of the contract.
>
> This office finds your claim untimely, and for that reason cannot, at this late date, consider same.
>
> With reference to those parts of your claim wherein you allege changes in the plans within the scope of Article 3 of the contract, your attention is directed to the time limit for asserting claims for adjustment under that article.
>
> With reference to those parts of your claim wherein you allege changed conditions within the scope of Ar-

ticle 4 of the contract, your attention is directed to the stipulation in that article that such conditions should be called to the attention of the contracting officer before they are disturbed.

With reference to those parts of your claim wherein you allege extra work was required by the Resident Engineer, your attention is directed to Article 5 of the contract wherein it is stated that no charge for any extra work or material will be allowed unless the same has been ordered in writing by the contracting officer and the price stated in such order.

In view of the above, your claim is hereby disallowed.

93. On July 17, 1944, plaintiff appealed from the decision of the contracting officer to the Secretary of the Army, the head of the department. The War Department Board of Appeals, in a decision which was dated February 27, 1946, and is in evidence as plaintiff's exhibit No. 30, allowed one claim not involved here and otherwise affirmed the decision of the contracting officer. Plaintiff filed a petition for reconsideration of the Board's action, but the Board denied the request for reconsideration.

94. In the written claim filed with the contracting officer on May 15, 1944, plaintiff wrote, in part, as follows:

> The attached claim for additional compensation is divided into ten sections, I through X, each section setting out in detail the changes made, unusual conditions encountered, and compensation claimed. Sections IV, VI, IX, and X are submitted by us in behalf of our sub-contractor, A. Raymond Jones Co., Dallas, Texas.

Sections I, III, IV, V, and VI of the above claim are involved in the present action.

95. Section I sets forth a claim for additional compensation in the amount of $105,237.48 for changes in design of typical sections in Fill Areas II and III in order to utilize the additional pervious and random pervious material found in Channel No. 1. No claim was made that the material found in the Channel constituted a changed condition within the meaning of article 4 of the contract, plaintiff's claim being based entirely on the change in design of the fill sections.

96. In section III, plaintiff claimed additional compensation in the amount of $72,081.52 for excavating, removing,

hauling, and dumping wet and saturated material encountered in Channel No. 2, alleging that the material was a subsurface condition differing materially from those conditions shown on the drawings or indicated in the specifications, for which plaintiff was entitled to additional compensation under article 4 of the contract. It also alleged that in ordering and requiring use of the wet and saturated material from Channel No. 2 on the fills, the plans and specifications were changed, for which plaintiff was entitled to additional compensation under article 3 of the contract.

Section IV repeated, on behalf of the subcontractor, the allegations of section III, with the additional complaint that the refusal to recognize the conditions encountered as changed conditions, and in ordering and requiring the use of the wet materials on the fills "the Resident Engineer violated the terms of our contract". The amount claimed for the wet and saturated material was $313,780.99. A claim in the amount of $169,580.19 for the excavation of shale from Channel No. 2 was included in section IV, but as this claim is not involved in the present suit, it has been excluded from the amount referred to above and in finding 11.

97. In section V, plaintiff claimed additional compensation in the amount of $371,329.60 for the failure of defendant to direct and control the rolled-fill work in accordance with the provisions of the contract, for the use of the wet material encountered in Channel No. 2 on the fill, and for the use of the additional pervious and random pervious material found in Channel No. 1 on the fill. Plaintiff's claim with respect to the materials used on the fill asserted that the plans and specifications had been changed to require the use of unsuitable materials. The language used in this section does not provide any accurate basis by which the amount claimed as additional compensation may be apportioned among the three items included in the section.

In section VI, allegations similar to those of section V are made on behalf of the subcontractor, except that no claim is asserted with respect to the Channel No. 1 material. The amount of additional compensation claimed was $113,417.20, but the language used in the section does not provide any accurate basis by which this amount may be apportioned among the two items included in the section.

98. Plaintiff did not present to the contracting officer, either orally or in writing, any claim that the additional pervious and random pervious material found in Channel No. 1 constituted a changed condition within the meaning of article 4 of the contract. In the claim filed with the contracting officer on May 15, 1944, after the completion of the work, the sole basis on which plaintiff sought additional compensation with respect to the material found in Channel No. 1 was that the plans and specifications had been changed, for which plaintiff was entitled to an equitable adjustment of the contract price.

99. As stated in finding 92, the contracting officer denied plaintiff's claims on June 19, 1944, on the ground of untimeliness. On June 27, 1944 plaintiff executed the release quoted in finding 14, releasing all claims and demands arising under or by virtue of the contract except the claim for additional compensation filed May 15, 1944, which was being appealed. The action taken by the War Department Board of Contract Appeals on plaintiff's appeal is referred to in finding 93.

CONCLUSION OF LAW

Upon the foregoing findings of fact, which are made a part of the judgment herein, the court concludes that as a matter of law the plaintiff is entitled to recover, and it is therefore adjudged and ordered that he recover of and from the defendant one hundred eleven thousand two hundred ninety-five dollars and eighty-one cents ($111,295.81).

The court further concludes that as a matter of law the plaintiff is entitled to recover for and on behalf of his subcontractor, the A. Raymond Jones Company, and it is therefore adjudged and ordered that he recover of and from the defendant three hundred thirty-nine thousand six hundred seventy-seven dollars and ninety-eight cents ($339,677.98) for and on behalf of the A. Raymond Jones Company.

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